Volume 46 ★ Number 7
JULY, 1939

Clinical Medicine and Surgery

★ Editorial ★

Sir Almroth Wright

Father of Vaccine Therapy

TODAY, when the prevention and treatment of disease with bacterial vaccines are so much a part of our daily practice that we hardly think about the background of such treatment (although it is so new that many actively practicing physicians can remember its beginnings), we have almost forgotten the name of the man who started it.

Almroth Edward Wright was born in Dublin, Ireland, in 1861, the son of a Doctor of Divinity, and at his home university, took his Bachelor's degree in Arts (and was first gold medallist in modern literature), and later, similar degrees in Medicine and Surgery, along with the medical traveling prize. He then took a course in Roman and international law, and did graduate work at the Universities of Leipzic, Strasburg, and Marburg.

With such an educational background, it is not astonishing that he was made demonstrator of pathology at Cambridge University when he was only 26 years old; of physiology at Sidney University two years later (1889); and professor of pathology at the Army Medical School, at Netley, in 1892, which last-named position he held for ten years. It was during this period that most of his epoch-making work was carried out, though, in 1891, he was the first to discover the part played by calcium salts in coagulation of the blood, and to devise an instrument (coagulometer) for estimating the coagulation time.

His deep and original studies in bacteriology and immunity enabled him to do the pioneer work of originating the entire system and science of *vaccinotherapy*, the first practical application of which was the successful inoculation of 3,000 soldiers, in India, against typhoid in 1896 and '97. Later (1898 to 1900) he vaccinated the entire British forces in South Africa, during the Boer War. Unfortunately his work was recognized just too late to save the thousands of lives that were lost through typhoid in our camps, during the Spanish-American war, and was not fully applied to our army for more than ten years after that. While the British troops were in South Africa Mr. Wright (he did not receive his M.D. until 1906) was in India with the Plague Commission.

In 1903, Wright announced the first accurate and reliable method for measuring the protective substances in the blood—the *opsonic index*—with which his name is most often associated by physicians in general. His most important books are "System of Anti-Typhoid Inoculation" (1904); "Principles of Microscopy" (1909); and "Wound Infections" (1915). The last-named book embodied the results of his studies while he was a consultant physician in France during the World War. His later work has been done as professor of experimental pathology, University of London. The rather recent picture of him in the frontispiece, shows him at work in his laboratory.

Dr. Wright is one of the fortunate men whose work has been properly recognized during his lifetime. In 1906, as well as receiving his Doctorate in Medicine, he was knighted and made a Fellow of the Royal Society. His honorary degrees include Fellow of the Royal College of Surgeons of Ireland; ScD. (Dublin and Leeds); LL.D. (Edin-

burgh and Belfast). He has also received a number of foreign honors and several medals and prizes, including the gold medal of the Royal Society of Medicine.

We also can honor him (and ourselves as well), by remembering this splendid pathmaker in a field which bids fair to be one of the chief features of the Medicine of the future (which is, unquestionably, preventive medicine), and by offering a bit of a prayer of praise and thanks to him whenever we inject one of the vaccines he originated, to protect someone from disease, or cure him if our prophylactic efforts were employed too late.

Nature has made occupation a necessity to us; society makes it a duty; habit makes it a pleasure.—CAPELLE.

The Best Age

FROM time immemorial it has been popular cant, with a large proportion of the adult population, when observing children at play, to heave a windy sigh, roll up the eyes and murmur, "Ah, happy, happy childhood! The most beautiful and sweetest time of life! Would that I might be a little child again!"

Bosh and humbug!

Among all the sigh-heavers and eye-rollers there is not one in a thousand—except those perennial children who never grow up, no matter how long they live—who would exchange the powers and capacities for achievement and for mature enjoyment which come with adulthood, for the narrow and jejune pleasures of the prepubertal period, nor for the turbulent and stressful excitements of adolescence.

If, then, neither childhood nor youth is the most desirable period of a man's life, what *is* the best age?

The answer is as simple, in its essence, as the consensus of human experience; and as complex, in its details, as the variations in human personality.

The best age, for any man or woman who has reached the full stature of physical, emotional, and mental adulthood, is *the age at which the phenotype —the individual as he stands—finds himself.*

To the man of twenty-five, with health, strength, and the dawning of a vision of achievement, that is the ideal age—the time of embarkation upon the sea of his productive life.

The substantial and "coming" citizen of forty, who has tamed his grosser passions to a reasonable degree, learned lessons from his mistakes, and proved his mettle as a player of the "great game," finds that the sense of his ability to do worthy things and, in large measure, to control his destiny, makes *that* the ideal age.

At three score, the capable adult has made a place for himself in his community, provided for his declining years, reached the pinnacle of his intellectual powers, and sees his children tentatively grasping the throttle of the great engine which we call modern civilization, and his grandchildren coming on to perpetuate his name and the world's progress. With all these things in view, is he not justified in calling the late summer of life the richest and finest of times?

And the octogenarian, who has lived sanely and fully, so that his physical frame is not racked by disease, has sailed beyond the tempestuous breakers of lust and personal ambition; past the shoals of prejudice and bigotry; through the sargasso sea of inertia and discouragement; and has dropped his anchor in the peaceful harbor of accomplishment. Knowledge, ripened by experience, has become wisdom; and sympathy, watered by the tears of bereavement and shone upon by the smiles of loved ones, has grown into the great banyan tree of wide compassion. Can any age show such rich fruits as that of the sturdy, keen-minded old man?

The child is free of duties; but he lacks grasp and vision. The youth lives among sharp and high-flashing emotions; but is full of uncertainty and lack of purpose. He of the middle years has gained power upon the hour and a perception of his goal; but is burdened by cares and responsibilities. The old man sees the great picture whole and smiles, with a tear in his eye; but his physical powers have waned and his vehicle of mundane manifestation is ready to break up.

Every age has its own flowers of joy, and its own thorns among the roses. Every age is the best age, for him who has lived eagerly, freely, happily, unselfishly, *one good day at a time.*

That is the great secret! *Each of us has but one day to live*—TODAY! If we do this hour's job *as well as we are able*, each hour will be the best of our lives; each day the best day; and each milestone along the path of life will indicate the highwater mark—the best of all possible ages.

The happiness and unhappiness of men depend as much on their turn of mind as on fortune.—LA ROCHEFOUCAULD.

Science, Free Will and Immortality

UP to very recently, a belief in the actual possibility that the mind could definitely influence physical processes (apart, of course, from the effects which thoughts and emotions are known to produce upon the glandular secretions of animals and men); that a supreme Intelligence is directing the processes of evolution which are now universally recognized; and that human individuality — variously called the ego, the Self, the soul, etc.— is not dependent upon the physical body for its existence and is probably immortal, was generally looked upon as being highly chimerical and unscientific, in spite of the fact that a number of men of high standing in the world of science have repeatedly affirmed the truth of these propositions.

Some years ago, Prof. Arthur H. Compton, of the physics department, University of Chicago, Nobel prize winner of 1927, the validity of whose scientific standing is beyond question, declared

that the most modern discoveries in physics show that the finer activities of the atom and the electron are not the dead, mechanical things they have been considered to be, but that they show a possibility of variation, in response to influences not predicable on a mechanistic basis, and that the mind may be, and very probably is, the source of these influences. Thus this "unreliability" of the physical world does away with the strongest argument of the materialists (by showing that there is a definite place for the intervention of such non-physical things as thoughts in the scheme of physical activities), and gives that world, for the first time, a truly human meaning.

Again, the freedom of choice which is predicated upon the release of physics from the unbending necessity of absolutely uniform reactions under similar conditions, leads directly and logically to the conclusion that thoughts are not the result of molecular reactions in the brain, obeying immutable physical laws, but are functions of the mind itself, which may reasonably exist quite apart from the brain.

This line of reasoning corroborates the *feeling* that most people have had from time immemorial, that the earth and the universe, as we see them now, could not, by any possibility, be the results of blind chance, since their marvelously interlocking relationships indicate the operation of a directing Intelligence, working toward a definite end.

It is quite possible that the human mind or soul is the nearest present approach to the evolutionary objective, and if such is the case, we would expect Nature to preserve, at all costs, these preeminent fruits of the operation of her various laws, both physical and superphysical.

The physical body of a man is an insignificant thing in the universe; but the human mind, consciousness, character, soul—call it what one will—may well be of immense cosmic significance. To destroy this powerful, highly organized, and definitely individualized product of immense effort in many lines, at the death of the physical body, would be inconsistent with what we know of the conservation of energy.

Thus do the modern dicta of orthodox science lead back to the statements of the sages and seers of all ages, that the universe is the directed product of a supreme Intelligence, of which the minds of men are cooperating parts.

It is absolutely certain that we are in the presence of an infinite, eternal Energy, from which all things proceed.—HERBERT SPENCER.

Immigration and the Doctor

FEW medical men in this country, today, are as busy as they would like to be, or have an income that is sufficient to permit them to lead the cultured life to which their labors and their services to the public should entitle them. In addition to the financial uncertainty, which has been foisted upon *all* business by the people who control such matters, and the modern transportation facilities which permit one physician to do almost as much work as two did a generation ago, they have been "cutting their own throats" by applying the newer knowledge of preventive medicine, so that the widespread epidemics, which formerly furnished much of the practice and income of many doctors, are no more.

The matters of transportation and disease prevention are parts of the great scheme of evolutionary progress, about which no one can do anything, even if one would be willing to retard the ongoing of the human race. But planned "depressions," by ruinous taxation to finance vast political spendings and by manipulation of the medium of exchange for the benefit of a few (read Gertrude Coogan's book, reviewed in the March issue on page 137), are within our control, through the ballot (intelligently used) and by "riding herd" on our "hired men" in the Congress.

But there is another factor in the present unsatisfactory condition of most medical practices, which is steadily growing in importance and is also within our control by means of the methods just mentioned.

Every alien who is admitted to this country, in times like these, means another mouth for US, the taxpayers, to feed, in one way or another, and with ominous frequency it is the mouth of one of our own citizens who, in some curious way, has been displaced by one of the incoming aliens. And every alien physician who is admitted to practice here (and they are more numerous than most people realize) reduces the normal activities and income of the doctors who have been born, bred, and trained in our own country.

Senator Robert R. Reynolds, of North Carolina, has introduced a Bill in Congress to *stop all immigration completely*, for a period of ten years, or until every employable American citizen is gainfully at work. This is a matter which directly concerns *all of us*, and about which we can *do something*.

Write to Senator Reynolds (Senate Office Building, Washington, D.C.) for a copy of his speech, delivered in the Senate on February 23, 1939; *study* that speech; and then, if his facts and logic appeal to you, write to *your* senators and congressmen, *demanding* that they vote and work for the passage of this bill.

It is as easy to deceive oneself without perceiving it, as it is difficult to deceive others without their perceiving it.—LA ROCHEFOUCAULD.

Hay Fever

PHYSICIANS who, themselves, have had hay fever, know, by personal experience, that while, like seasickness, it never kills anyone, it can make a person thoroughly miserable and definitely lower efficiency.

Medical men with such experience have, no doubt, begun desensitizing themselves and their hay

fever patients several weeks ago. Those who have not done so (at least as regards the patients) should be up and doing without any delay. There is still time to give these sufferers at least partial alleviation of their coming distress by a judicious course of injections of pollen antigens; and if they *don't* do it, unfavorable reports are liable to be handed around, because many people *know* about these things and *expect* to be given all the relief that is possible.

Remember, however, to study each case *carefully* and *individualize* the treatment. Pollen antigens are potent remedies, and *can* do harm, if given carelessly. Moreover, hay fever is *quantitative* (in relation to the number of pollen grains in the air on any day), and all factors in each case must be reckoned with. If a coincident food allergy is making things worse, a study of the blood-serum enzymes is in order, with treatment based on the results.

While we do not hear or read so much about the *zinc ionization* treatment as we did a few years ago, it is still being used, in selected cases, and giving good results. Several refinements in the technic have been developed during the past year or two. Those who have one or more patients who suffer severe and intractable attacks, will do well to look up the newest stories about this method. Of course the detoxicative and nasal-corrective regime practiced and preached by Haseltine, of Chicago, and his co-workers, is *always* in season and helpful, but by no means all patients are able to afford the time and expense it entails.

Where, for any reason, the more rational and relatively curative measures cannot be applied, do not forget that these patients can be given material (even if only temporary) relief by local applications of the various preparations of ephedrine and similar synthetic drugs (including, of course, the Benzedrine — amphetamine —inhaler), and by administering such drugs by mouth, alone or in combination with Aspirin (acetosal) and small quantities of the barbiturates. Quite a number of these patients are benefited by fairly large doses of the oils and concentrates containing vitamins A and D.

No alert physician will let his hay fever patients "suffer it out," when there are so many things that can be done to make them so much more comfortable than was possible ten years or so ago.

NEXT MONTH

Dr. T. F. Reuther, of Chicago, will describe, with several helpful illustrations, the technic of caudal anesthesia — a highly useful method.

Dr. Harold Sackren, of Brooklyn, N. Y., will present the results of some careful studies of the use of vaginal tampons for menstrual protection.

Dr. Ralph L. Gorrell, of Clarion, Ia., will discuss the management of gallbladder cases, using a new bile-salts combination.

COMING SOON

"The Treatment of Old Age As an Entity," by Harry Benjamin, M.D., New York City.

"Notes from the A.M.A. Meeting," reported by George B. Lake, M.D., Waukegan, Ill.

GODS ASLEEP*

When haste and things crowd out the sweet, bright dream
Of glory, that illumined other days,
Old thoughts of Eros and of Friga seem
Wild fancies of the past—mere childish plays.
But still an Undine waits beside a stream
And Pan pipes on, if we but seek their ways,
Which we have lost in all the glare and din.
The old gods are not dead. They sleep within.

G. B. L.

*Chicago Tribune, Jan. 20, 1939.

★ *Leading Articles* ★

Xanthine Derivatives in Cardiovascular and Nervous Diseases

A Report of 200 Cases

By

JOHN G. CODIK, M.D., and ANNA FUREDY, M.D., New York City

THE increasing number of patients with cardiovascular and nervous diseases, easily attributable to the strain and stress of modern times, presents one of the most serious problems confronting the physician today. Inasmuch as the tension is likely to continue, the therapeutic aspect of these conditions calls for renewed and intensive study. The present series of cases was undertaken about two and a half years ago, with this thought in mind, giving particular attention to medicinal therapy. Nonmedical measures, such as rest, both mental and physical, must be regarded as indispensable accompaniments of sedative medication.

Our particular endeavor was directed toward the administration of a sedative which would produce beneficial effects over a prolonged period, and also toward preventing gastro-intestinal and dermal reactions, such as frequently accompany the bromides and other nerve sedatives. While not successful in finding a single drug which would embody these factors, special attention was focused upon a combination of phenobarbital with the xanthine derivatives, such as caffeine, theobromine, and theophylline. These derivatives are essentially diuretic in action, and are effectively employed as myocardial stimulants.

Pharmacology

The chief actions of the xanthine group, as pointed out by Sollman,[1] are: (1) Increase of the reflex irritability of the central nervous system; (2) increase in the ease of muscular contraction, with increase in the heart rate; (3) vasodilatation, by a direct action on the vessels, with moderate doses which combine with cardiac stimulation to quicken the circulation; and (4) diuresis, a result of the interaction of several factors.

In circulatory diseases, where vasodilatation and sufficient cardiac stimulation are required to maintain normal blood pressure, members of the xanthine group have been found especially useful, their diuretic action being a further desirable feature.

Theobromine surpasses caffeine in its diuretic, its cardiac, and its muscular reactions. It is preferred in cardiac edemas because of the avoidance of the caffeine side-effects (insomnia, nervousness, and gastric disturbances). Due to its slight solubility, it is used almost exclusively in the form of the readily soluble double salt, theobromine-sodium salicylate. The dose is four times as large as that of caffeine, and its action is more prompt and powerful. In excessive doses it may, however, produce toxic effects similar to those of caffeine—headache, nausea, vomiting, epileptic spasms, albuminuria (Kobert, Schmiedeberg, Seifert). While these manifestations are unusual occurrences, they nevertheless serve to emphasize the importance of administering a definite amount of this xanthine derivative at each dose.

In the present series, 3 grains (200 mg.) of this soluble double salt were administered, combined with ¼ grain (16 mg.) of phenobarbital, and 1½ grains (100 mg.) of calcium lactate. The phenobarbital (phenylethylmalonylurea) was chosen for its particular effect upon disorders of the central nervous system associated with motor disturbances. It is a useful hypnotic in nervous insomnia and conditions of excitement of the nervous system; likewise it has a sedative effect in cardiac neuroses and climacteric disorders. The addition of calcium lactate to this combination tends to inhibit any possible deleterious effects which may be produced by any other drugs, by aiding in the elimination of phenobarbital from the system.

The essential therapy in our series of 200 cases, consisting of the theobromine-phenobarbital-calcium combination, in the doses mentioned, was given in the form of an enteric-coated tablet.* The resin coating prevents the theobromine from irritating the gastric mucosa and, vice versa, prevents the gastric juices from causing deterioration of the theobromine. The thin coating is readily absorbed in the alkaline medium of the duodenum.

Classification of Cases and Results

Two hundred (200) cases of cardiovascular and nervous conditions were included in the series. The first group under observation included: (1) hypertensive cardiac cases (72); (2) anginas (39); (3) myocardiac cases without hypertension (22); (4) climacteric disturbances with hypertension (38). In the second group were: (5) climacteric disorders without hypertension (23); and (6) nervousness in general (6).

Medication throughout the entire series consisted of Diurbital tablets, usually 2, three times a day.

In 61 (85 percent) of the 72 cases in Class 1, a reduction in the systolic blood pressure of 80 mm. of mercury resulted; in 7 (10 percent) a reduction of as much as 70 mm. was brought about. In both of these groups the clinical symptoms changed dramatically, with much improvement in these patients. In the remaining group there were 4 cases in which the pressure was not brought below 190 mm. of mercury.

1.—Sollman, Torald H.: "A Manual of Pharmacology: Its Application to Therapeutics and Toxicology." 5th Ed., 1936. (W. B. Saunders Co.)

*The trade name of this tablet is Diurbital (Grant).

In the 39 cases in Class 2 (angina pectoris), Diurbital caused remarkable improvement in all save 2 (5 percent). The xanthines are known to be especially useful in angina. Here the drug acts by increasing the coronary circulation through vasodilatation of the coronary arteries and the phenobarbital has an opportunity to exert its sedative action.

Most satisfactory results were obtained in the myocardial cases, in the absence of hypertension (Class 3), all of which were definitely improved by Diurbital.

The action of phenobarbital in Diurbital caused remarkable improvement in the 61 climacteric cases (Classes 4 and 5), only 2 of which (in which phenobarbital could not be tolerated) were not improved. The combination of these drugs, in fact, made it possible for 10 patients in this group, who had previously had an intolerance to phenobarbital, not only to tolerate it, but actually to show improvement. Estrogenic hormones were also applied, yet these cases became more rapidly controllable than those which did not receive Diurbital.

In the cases of nervousness (Class 6), this combination was found to be capable of substantially improving central nervous system disorders, all of the 6 patients showing improvement.

Summary

1.—Hypertensive cardiac patients were greatly improved by Diurbital in 97 percent of the cases studied. In only 3 percent was it impossible to reduce the blood pressure below 190 mm. Hg. systolic, but subjectively even these patients felt better.

2.—In the anginas, the xanthine derivative theobromine, in combination with phenobarbital and calcium, proved especially helpful. In 95 percent of the cases studied there was remarkable improvement.

3.—All of the myocardial cases treated showed improvement, which was parallel to the diuresis, with relief of the edema and other symptoms.

4.—Improvement was shown in 97 percent of the climacteric disorders in women. There were 16 percent in this group, previously unable to tolerate other combinations of phenobarbital. In only 3 percent of the cases studied did the intolerance to phenobarbital persist.

5.—In the cases of nervousness, improvement occurred in every instance, due to the beneficial effect of this combination of drugs upon the central nervous system.

464 E. 159th St.

A New Antacid-Adsorbent Combination in Gastro-Intestinal Diseases

(A Preliminary Report)

By

FRANK A. VESEY, M.D., New York, N. Y.

THE majority of cases seen by clinicians may be more or less generally classified as gastro-intestinal disorders. The importance of a thorough understanding of conditions as prevalent as these, and the ability to cope with them, need hardly be stressed.

In a search for the most successful means of treating these disorders, I have found a combination of substances, each in itself effective, particularly useful for treating peptic ulcer, gastric hyperacidity, and other gastro-intestinal disturbances. This compound contains magnesium trisilicate, colloidal kaolin, and aluminum hydroxide, and is marketed ethically under the trade name of Silmacol.

Magnesium trisilicate has been found to be superior to bismuth salts, prepared chalk, and other medicines in common use in the treatment of gastric hyperchlorhydria and peptic ulceration of the stomach, duodenum, and jejunum[1]. Mutch[2] emphasizes that it is completely innocuous when taken by mouth, even in enormous doses, and does not disturb the normal action of the bowel. Further, that it exerts a prolonged neutralizing action in the stomach, which continues for several hours. Its general adsorbent action is similarly continuous. The duration of useful antacid action is approximately equal to the time required by gastric digestion and to the usual interval between successive meals. Substantial secondary neutralization takes place in the stomach in its interaction with gastric acid, continuing after the quick initial interaction has taken place[3].

Colloidal kaolin is a native aluminum silicate[4]. Its adsorptive property renders inert various toxic materials in the alimentary canal. It is able to adsorb poisonous alkaloids, bacterial toxins, and probably even bacteria themselves. It is used extensively in various forms of gastro-enteritis, where it acts by adsorbing undue secretions; it also exerts a protective influence upon the mucous membranes[5], due to the colloidal nature of its particles, which affords mechanical protection against irritation[6].

Aluminum hydroxide is a white, bulky, amorphous powder, odorless and tasteless. According to Einsel, Adams, and Myers[7], the hyperacidity of peptic ulcer is reduced to normal levels, and symptoms are rapidly controlled, after several weeks of treatment with this gelatinous substance. The free acidity of the stomach is lowered, but returns to the initial level after medication is discontinued. No contra-indications for aluminum hydroxide therapy were observed by Einsel and Adams, nor any toxic symptoms in any of the 115 cases under treatment with colloidal aluminum. Determinations of the total base, chloride, CO_2 content, and p_H of the blood, failed to disclose any disturbance in the acid-base balance.

The problem of treatment of peptic ulceration

is a difficult one. If there is obstruction due to cicatrization, with resultant stasis, the indications for surgery cannot be questioned. However, in the absence of obstruction, with evidence of hemorrhage and perforation, the question of treatment must be considered with relation to each individual patient. When there are no surgical indications, I recommend antacid therapy, with dietetic measures.

The combination of magnesium trisilicate (50 percent), colloidal kaolin (25 percent), and aluminum hydroxide (25 percent) is proving a safe and efficacious remedy in the treatment of the conditions mentioned. The pharmacologic value of each of these drugs is supplemented by the synergistic action of the other.

The following 4 cases, outlined in this preliminary report, were selected as typical of results obtained in a series of 27 cases which I treated in private practice.

Case Reports

Case 1: A. S. F., a poorly-nourished male patient, 49 years of age, presented himself with a history of discomfort followed by pain in the upper abdomen. Pain occurred periodically at first, lasting for a week or ten days; and then there were periods of relief for from four to five weeks. The pain usually came on three or four hours after meals. At first the patient found relief by taking alkalies indiscriminately, but this was followed by constant and almost unbearable discomfort.

Physical examination revealed tenderness, localized by the finger in the epigastrium to the right of the midline. There were indications of hyperacidity, and occult blood was found in the stool. Roentgenologic examination revealed evidence of multiple ulceration of the duodenum. The stomach was hypertonic and emptied rapidly. There was marked pyloric spasm. Other physical signs were negative. A diagnosis of multiple ulceration of the duodenum was made.

The patient was given a bland diet, supplemented by milk in the intervals. He ate five times daily, and two drams (8 Gm.) of Silmacol* were prescribed before each feeding. Eight weeks after beginning this therapy, the patient's subjective complaints had disappeared; there was no evidence of occult blood in the stool; nor any indications of ulceration, as observed by roentgenologic examination. The patient gained weight, and is still under observation.

Case 2: M. K., a fairly well nourished male patient of 51 years, had been under treatment for a year for chronic alcoholism. After the ingestion of large amounts of alcohol, he was confined to bed in his home.

Physical examination showed the patient extremely apathetic, with a temperature of 102.4° F., a coated tongue, and tenderness and distension over the upper epigastrium, without evidence of pain. The etiologic rôle of alcohol was immediately established and a diagnosis of acute gastro-enteritis was made.

He was placed on a diet of iced tea for ten days; then, for two consecutive days, on a light, bland diet. Adequate sedation was provided. Silmacol was given in two one-dram (4 Gm.) doses, five times daily. The patient made a remarkable recovery, his acute gastric symptoms completely disappearing within five days.

*The preparation, Silmacol, used in the present study, was supplied by the Amfre Drug Co., Inc., New York City.

Case 3: H. W., a poorly developed and undernourished woman, 23 years of age, who, one month prior to the first examination, had broken her engagement to be married. She had vomited every morning since that time, and complained of eructations, over which she had no control. This patient was of the hysterical type, and extremely emotional, so that questioning, during the examination, on several occasions brought her to the verge of tears.

Physical examination revealed no evidence of organic disease. The gastro-intestinal tract, as shown by roentgenologic examination, was negative. A diagnosis of nervous dyspepsia was made.

Psychotherapy was instituted, supplemented by Silmacol. Treatment lasted for six weeks. The patient has improved considerably, with complete absence of gastric symptoms.

Case 4: A woman, 42 years of age, complained of a feeling of fullness and pressure in the abdomen, which came on usually three hours after meals. She stated that the pain subsided when food was taken. There were attacks of nausea, with occasional, but rare, episodes of vomiting, the vomitus being extremely sour. Her appetite was good; general condition, relatively good; and she reported that pressure in the abdomen increased when she became excited.

No evidence of organic change was found upon physical examination, and this was corroborated by x-ray studies. A test-meal examination revealed free HCl, 50 to 60; and total acidity 110 (normal values are, free HCl, 30; and total acidity, 50 to 60). A diagnosis of hyperchlorhydria was made.

The patient was given a diet which prohibited spices, alcohol, strong coffee or tea, and also smoking. Silmacol therapy was instituted. After three weeks' treatment her symptoms have completely disappeared.

Summary

1.—Magnesium trisilicate is an antacid, adsorbent, and gastric neutralizer. Colloidal kaolin exerts a protective influence on the intestinal musculature, preventing undue secretion. Aluminum hydroxide is an astringent.

2.—Ulceration of the stomach, duodenum, or jejunum, in the absence of surgical indications, can be successfully treated by means of diet and Silmacol.

3.—Hyperchlorhydria, when the result of acute or chronic gastritis, can also be treated with good results by these measures.

4.—Stomach conditions of neurogenic etiology, and gastro-enteritis, can be managed by means of this preparation.

5.—Within therapeutic doses (the latitude of which is wide), the possibility of alkalosis or of toxic symptoms is negligible.

6.—I have successfully treated a number of cases of peptic ulcer, hyperchlorhydria, dyspepsia nervosa, and gastro-enteritis, by means of this preparation.

7.—The combination of magnesium trisilicate (50 percent), colloidal kaolin (25 percent), and aluminum hydroxide (25 percent), is proving a safe and efficacious remedy in the treatment of the conditions discussed.

References

1.—Mutch, N.: Hydrated Magnesium Trisilicate in Peptic Ulceration. *Brit. M. J.*, 1:254-257, Feb. 8, 1936.

2.—Mutch, N.: Synthetic Magnesium Trisilicate: Its Action in the Alimentary Tract. *Brit. M. J.*, 1:205-208, Feb. 1, 1936.

3.—Mutch, N.: Magnesium Trisilicate. *Brit. M. J.*, 2: 735-739, Oct. 16, 1937.
4.—"National Formulary." Page 209, 6th Edition, 1936.
5.—"U.S. Dispensatory." Page 584, 22nd Edition, 1937.
6.—Cushny, Arthur R.: "Textbook of Pharmacology and Therapeutics." Philadelphia: Lea and Febiger, 1936. Page 224, 11th Edition.
7.—Einsel, I. H., Adams, W. L., and Myers, V. C.: Aluminum Hydroxide in Treatment of Peptic Ulcer. *Am. J. Digest. Dis. & Nutrition.*, 1:513-516, Sept., 1934.

311 East 72nd Street.

Coronary Atheroma *

By

CLARENCE L. WHEATON, M.D., Chicago, Ill.

THE people of this country are heart conscious, largely through the interest aroused by the lay press. They have been told that heart disease causes one-third of the deaths today and that more people die of cardiovascular disease than from cancer, tuberculosis, nephritis, and pneumonia combined. Notwithstanding all the knowledge we may possess concerning the anatomy and physiology of the heart, it in no way lessens the mystery surrounding this organ or the many wondrous things concerning the life process, as implied by the incessant beat of the human heart, and also by the changes in the arterial system, exemplified by old age and death.

Harvey, in 1628, published his classical thesis, *"De Motu Cordis,"* an anatomic dissertation upon the movement of the heart and blood in animals. He stated: "If the heart be unaffected, life and health may be restored to almost all other parts of the body; but if the heart be chilled or smitten with any curious disease, it seems of necessity that the whole animal fabric should suffer and fall with decay."

Thus the dependence of the circulation upon a central organ was shown over three hundred years ago.

The literature shows comparatively slow progress in contributions relative to the diagnosis of cardiovascular disease; indeed, 200 years elapsed from the time of Harvey's discovery until Corvisart, about 1800, made practical use of Auenbrugger's discovery of percussion to determine the size of the heart.

During the past hundred years, various pulse graphs and sphygmographs have been made for recording the force and form of the pulse. The only other noteworthy development was the electrocardiograph, for recording the *impulses* of the heart movement. This instrument, correctly recording the pulse rate, the rhythm, and force and form of the neuro-electric impulses, affords opportunity for more accurate determination of heart conditions, disturbances of its mechanism, and structural changes.

The Journal of the American Medical Association, May 1, 1937, reported on a study of 3,584 American physicians who died in 1936. Out of every thousand deaths, 624 were caused by cardiovascular disease. We cannot escape the fact that disease of the coronary arteries played an important part in this tragedy.

Disease of the coronary arteries is not uncommon and is of primary importance, as the sole blood supply of the heart is dependent upon these vessels. Therefore, obstruction to the circulation through them from disease of their walls, if not a cause of sudden death, results in degenerative changes in the heart muscle eventually causing its failure.

Atheroma, or sclerosis, of the coronary is the usual lesion in these cases. The terms "atheroma" and "sclerosis" are employed indiscriminately to denote the same affection, although, as stated by Broadbent and other observers, atheroma, etymologically, means a gruel-like condition, and sclerosis a hardening.

The coronary artery in cross section, as illustrated by the artist to whom I am indebted for the accompanying drawing (Fig. 1), shows the lumen to be partially obstructed by small, whitish, opaque projections, so that on section they have the appearance of a signet ring with the signet turned inwards; or the lumen may be almost occluded by a uniform thickening which involves the whole circumference. On microscopic examination of a section through one of these projections, it is seen to consist of a swelling immediately beneath the endothelium, which is pushed inward; externally it is usually limited by the internal elastic lamina.

The muscular coat beyond this may be atrophied from pressure or may, in advanced disease, be involved in the degenerative process and to a great extent destroyed. The swelling is seen to consist of amorphous, non-staining debris, in which may be distinguished strands of hyaline degenerated tissue and small, atrophic nuclei of cells, which vary greatly in number in different stages of disease. Frequently calcareous patches are present, from deposits of lime salts in the degenerated tissue. The condition would suggest necrosis of the subendothelial tissue, either from toxic influences or from imperfect nutrition, followed by swelling of the necrotic tissue and a futile attempt at repair, the latter being shown by the presence of cellular infiltration, which appears to consist of atrophic connective-tissue cells. Huchard regards endarteritis obliterans of the vasa vasorum, which may be due to a variety of causes, as the most important etiologic factor in this primary necrosis.

The important point is that narrowing of the lumen of the coronary arteries results, and consequently interference with the flow of blood through them, even in the absence of pronounced obstruction. The loss of elasticity in the vessels and the presence of calcareous plates in their walls, seriously impair the circulation in the heart muscle. Hence may result sudden death, angina pectoris, and various degenerative changes in the heart muscle.

We cannot regard atheroma of the coronary

*Presented at the Clinical Conference, Illinois Masonic Hospital, October 6, 1938.

arteries as a natural result of old age. It occurs in the early decades of life. Men under forty fall victims to disease of the coronary, as manifested by coronary thrombosis or uncomplicated angina pectoris or both, and are destroyed in their prime.

It is with this thought in mind that I present this subject, with the hope that the clinical characteristics of this disease may be more exhaustively studied in youth and early middle life, and that clues may be discovered that may aid in its prevention or disclose some underlying causative factor exclusive of the aging process.

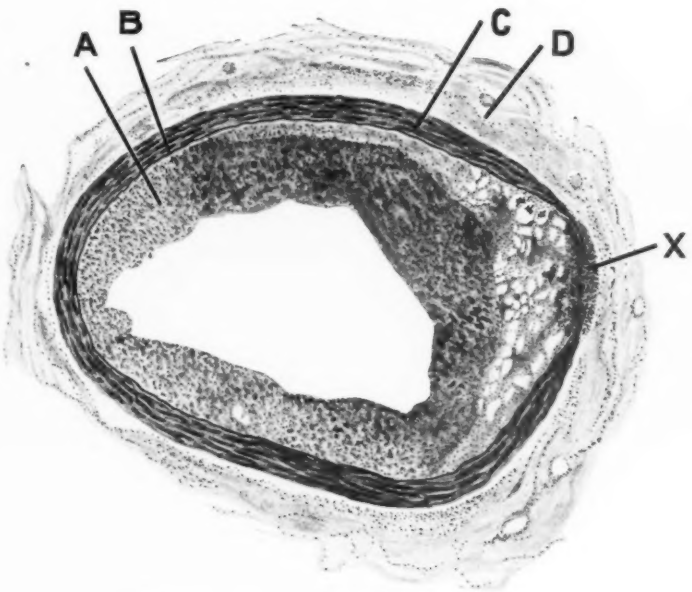

Fig. 1.

SECTION OF CORONARY ARTERY SHOWING ADVANCED SCLEROSIS

A-GREATLY THICKENED INTIMA
B-INTERNAL ELASTIC LAMINA
C-MUSCULAR COAT
D-ADVENTITIA
X-AT X THE MUSCULAR COAT IS ALMOST DESTROYED, AND PATCHES OF CALCIFICATION ARE SEEN IN THE DEGENERATED TISSUE BENEATH

Glendy, Levine, and White, among reports of coronary disease published in the literature, found a considerable number of patients under forty usually incorporated in the studies of all age groups. It was difficult to determine, from these reports, just what the actual incidence of coronary disease is in the third and fourth decades of life.

After exhausting the possibilities of private practice, Glendy *et al.* turned to private hospitals and appealed to individual physicians. In this way 100 cases of undoubted coronary disease, occurring under the age of forty, were assembled. According to the diagnostic criteria listed, cases were excluded when there was the slightest doubt as to diagnosis or the possibility of a complicating factor having entered the picture.

It is not difficult, from the evidence available, to conclude that the stresses and strains of life are significant factors in the present high incidence of coronary disease. Age, sex, and race must also be taken into account. Before the fifth decade, coronary occlusion is uncommon. The sixth decade probably shows the greatest number of cases, more frequent in men than in women, and in certain climates during the winter months; more prevalent in the diabetic and hypertensive individuals.

White, in his report on 21 patients who had coronary thrombosis before the age of forty, noted that most of them used considerable quantities of tobacco, and that ceasing the use of tobacco lessened the incidence of pain in certain patients. Coronary occlusion due to syphilis is not common unless aortic insufficiency is present. Comparatively few cases of embolism have been reported in the literature as a cause of coronary obstruction.

Symptomless periods in coronary arteriosclerosis may last a long time. Physical examination may reveal nothing. The electrocardiogram may or may not reveal significant changes, and certain persons in this period may pass life insurance examinations. The electrocardiogram may be abnormal for years before clinical manifestations appear. Gastro-intestinal disturbances may precede evidences of cardiac disorder.

Dyspnea, angina pectoris, and acute coronary occlusion may come like a bolt from the blue, or be preceded by one or more socalled pilot attacks of anginal pain. There may be disturbances of the cardiac mechanism, such as auricular fibrillation and heart block, with paroxysmal dyspnea.

Summary

Coronary occlusion is a cause of death before the fourth decade of life.

The fundamental etiologic factors are still unknown.

Coronary occlusion not infrequently occurs in the course of coronary arteriosclerosis.

The progress made in electrocardiography has been of great diagnostic value.

Combined clinical and electrocardiographic study is most essential.

25 East Washington St.

Notes from the Illinois State Medical Society

Reported by

GEORGE B. LAKE, M.D., Waukegan, Ill.

THE Illinois State Medical Society held its 99th annual meeting (it is one of the old ones!) in May, in the pleasant little city of Rockford, which many physicians who were in the service during the World War will remember as the site of Camp Grant. The town has changed a lot in twenty years!

The Hotel Faust, on the hill across the river, was able to handle the sessions and exhibits under its own hospitable roof, and the city took care of the more than 1,000 registrants comfortably.

Again this year, for the second time, the Society, with the cooperation of various groups interested in public health activities, prepared an exhibit for the lay public, for the purpose of showing the people some of the work that the medical and allied professions have done for their protection. This was known as the Hall of Health, was housed in the Armory, and was well attended.

At a relatively small and local meeting like this, the scientific and commercial exhibits are not likely to be very startling or new, and as I was planning to attend the meeting of the American Medical Association two weeks later, where the exhibits are far more extensive and varied, my report on the newer things along these lines will appear in my story of the later and larger show.

One thing which will probably not be shown at St. Louis, however, was in the booth of Hynson, Westcott, and Dunning, where they had an extensive graphic display of the details of the technics which will be described in my abstract of the talk by Dr. Falls, of Chicago.

Here follow abstracts of a few of the papers and talks presented at the various scientific sessions, chiefly those from the interesting symposium on endocrinology.

TREATMENT OF OSTEOMYELITIS

By Paul H. Harmon, M.D., Springfield, Ill.

The diagnosis of osteomyelitis now rests chiefly upon the results of aspiration and culture of the infected tissues, and the roentgenographic evidence is largely secondary, as it is also in deciding whether or not to operate. This latter decision now rests chiefly upon the presence of *continued* pain and of other *clinical* symptoms. If a joint is involved, *traction* should be applied, in any case.

Staphylococcus toxoid and serum are of little value in acute cases, but may be decidedly helpful in chronic cases. Sulfapyridine is still experimental in treating this disease, but the results, so far, are encouraging.

In children, massive bone sequestra can be absorbed and need not, necessarily, be removed, opening and draining of the lesion being sufficient. In adults it is frequently safe to remove the diseased bone and close the wound without drainage.

Amputation should be considered in chronic, long-continued cases of osteomyelitis, in order to minimize the danger of amyloid disease or other serious complications.

Occasionally we see, in children, fulminating, septic cases, with severe local and moderate systemic symptoms, but little obvious involvement of the bone. The treatment of such cases should be *strictly conservative*. Do nothing hastily. Wait and watch carefully for several days.

In cases of minimum or moderate severity, study carefully for several days, or even weeks, before operating; and then, if surgery seems indicated, remove the diseased bone and close the wound without drainage.

In cases where pain is severe, but the x-rays show little bone involvement and the systemic symptoms are mild, watch the patient carefully and, if the temperature rises, open the lesion.

PROGESTIN IN OBSTETRIC COMPLICATIONS

By Frederick H. Falls, M.S., M.D., F.A.C.S., Chicago, Ill.

Prof. of Obst. and Gynecol., Univ. of Ill. Coll. of Med.

Pregnancy is a physiologic endocrinopathy. All hollow, muscular organs react violently to the presence of a foreign body; but during pregnancy there is something in the ovary that reduces the irritability of the uterus so that it tolerates the presence of a large foreign body for nine months.

In order to determine what this substance is, and how the uterus reacts to various conditions and drugs, a number of studies were made by inserting a rubber bag into the uterus; connecting it to a kymograph, so that tracings could be made of all contractions; and then dilating it just sufficiently to permit the making of satisfactory records.

A hypodermic injection of 1 cc. of Pituitrin will cause rhythmic contractions of a parturient uterus (7 days postpartum) for from 2 to 3 hours. One rabbit unit ("Cor unit") of an oily extract of *corpus luteum*, known as "Corlutin" (Reed and Carnrick), will stop or nullify the effects of 3 cc. of obstetric Pituitrin. It thus appears that the substance which inhibits uterine contractions is contained in the corpus luteum, and should be able to control threatened abortion.

The classical treatment of **threatened abortion** has been to put the patient to bed and give her a dose of morphine, as a sedative. However, some experiments with this uterine bag and kymograph apparatus promptly showed that morphine *increases* uterine contractions. The estrogens, such as Progynon and others, also increase uterine contractions, or sensitize the uterus to stimuli.

The oily Corlutin is relatively expensive (it would cost about $150 to carry a habitually aborting woman through a pregnancy with this preparation), so in seeking a less costly product for the purpose, it was found that an aqueous corpus

luteum extract, which has been on the market for some time (Lutein—Hynson, Westcott & Dunning), would produce the same results (though somewhat more slowly) at a much smaller cost.

Five (5) cc. of Lutein will inhibit the action of 1 cc. Pituitrin; 10 cc. will paralyze the uterus, by the action of the minute amount of progestin which it contains, so that there is no reaction to repeated doses of Pituitrin. This, of course, would stop the progress of a "threatened" (*early*) abortion, by giving 3 cc. of Lutein every 4 hours, hypodermically, in "natural" cases, and, by carefully regulated doses, would carry to term a woman who had aborted habitually.

In *habitual abortion*, 2 Cor (rabbit) units of progestin per week are usually sufficient for a maintenance dose. If necessary, one can use the more potent, oily preparation (Corlutin—R. & C.). After 4 or 5 months, the placenta takes over the function of the corpus luteum, and the treatment can be discontinued.

If the fetus is dead (which can be determined by the type of reaction to the Aschheim-Zondek test), or the abortion is far advanced, there is no purpose in giving progestin. In such cases, the uterus should be emptied promptly.

Premature detachment of the placenta: If the detachment is complete or nearly so, the fetus is dead and there is nothing to do. If it is slight, the oozing blood stimulates uterine contractions and completes the detachment. Progestin stops the progress of this condition. **Placenta previa** is handled along the same general lines.

In twin pregnancies, where there is considerable overdistension of the uterus, and in ruptured membranes, fibroids, and other conditions where uterine contractions threaten the patient's welfare, progestin will stop them, and will inhibit contractions for two hours *or more*.

Incidentally, one should not forget these preparations in the treatment of cases of *sterility* due to deficiency of progestin.

BURNS

By Charles L. Patton, M.D., F.A.C.S., Springfield, Ill.

If a burned patient is brought to you, whose wounds have been dressed with greasy substances, "to shut out the air" (as frequently happens), remove the grease with benzene and *neutral* soap (not green soap) and water; remove all dead tissue carefully; and dry the surface. Then treat the entire burned surface with a 5-percent solution of tannic acid, applied as a spray or by means of wet dressings, until the tissues are thoroughly tanned. This may be followed, if desired, by the application of a 10-percent solution of silver nitrate. The purpose of this treatment is to fix toxins in the tanned tissues.

If tannic acid is not readily available, one can use a solution of gentian violet, which also may be followed by the silver nitrate solution, if desired.

If the patient is in shock from pain, fear, or toxemia, *relieve the pain* (using a general anesthetic, if necessary), and maintain the body fluids with intravenous infusions of dextrose-saline solution or acacia solution, or by blood transfusions. Such patients must be constantly and carefully *watched*, in order that ominous symptoms may be treated *promptly*.

As healing progresses, do not try to soak off the crusts, but trim off the edges with scissors as they curl up. If separation is unduly delayed, use sharp dissection for their removal.

If a wound becomes infected, cleanse it with mild soap and water, dry it, and paint it with an aniline dye.

THE ENDOCRINES IN OPHTHALMOLOGY

By Elias Selinger, M.D., Chicago

Ocular evidences of endocrine disturbances may be obvious, as in the exophthalmos of Graves' disease, or obscure, as in certain cases of excessive lacrimation. Obstinate blepharo-conjunctivitis can frequently be improved by giving thyroid extract. *Tetany cataract* may occur in children; and *myopia* may be due to parathyroid deficiency. The structures involved may be anywhere between the eyelids and the optic nerve tracts.

A careful routine eye examination sometimes discloses evidences of endocrine disorders; while in other cases special examinations—slit lamp, perimetry, and others—must be carried out to find the trouble.

In certain cases, the cooperation of an endocrinologist and other specialists is required to determine disorders of the thyroid, parathyroids, pituitary, pancreas, and other ductless glands.

In obscure eye conditions, do not forget nor neglect to consider and investigate the functioning of the glands of internal secretion.

GENERAL MANAGEMENT OF PNEUMONIA

By M. Herbert Barker, M.D., F.A.C.P., Chicago Asst. Prof. of Med., Northwest. Univ. Med. Sch.

Since typing and specific pneumonia serums are not available or advisable for about 30 percent of pneumonia patients, physicians must supply adequate general medical and nursing care.

The nurse must keep the patient free from friends and relatives, miscellaneous food, records, shocks, etc. From 3,000 to 5,000 cc. of fluids must be given each 24 hours, as *water* (too much fruit juice has a tendency to cause *alkalosis*. If this condition develops, give ammonium chloride, by mouth). If the patient will not drink enough, give the fluid intravenously, as 10-percent dextrose solution (*not* saline solution). The caloric requirement is from 2,500 to 3,000 calories daily, of *easily digested* food.

Oxygen relieves restlessness and makes the patient more comfortable, and should be given to *all* patients, in a concentration of 50 percent or more, at a temperature of 70° F., until they are out of danger, no matter what other remedies may be used (sulfapyridine, serum, etc.). If the oxygen is given by a nasal catheter, the flow should be from 10 to 12 liters per minute. A tent is better, in most cases. Delirious patients should be in an oxygen room.

Blood transfusion should be given if the red cells and hemoglobin fall. The red cells should be kept at 4,000,000 per cu. mm., especially if sulfapyridine is being used, as that drug has a tendency to cause anemia.

If the patient is restless, give barbiturates, as needed. For excessive cough, give codeine, 1 grain at a time. Morphine should be used for *severe pain*, but not for restlessness.

All pneumonia patients should be in a good hos-

pital, if possible. If not, they must have *competent* nursing care in their homes.

FACTORS IN GROWTH AND DEVELOPMENT

By Isaac A. Abt, M.D., Chicago
Prof. Dis. Child., Northwest. Univ. Med. Sch.

Among the factors that influence growth and development are heredity, environment, hormones, vitamins, cerebral activity, prenatal toxicoses, other diseases of the mother (antenatal) or of the child (postnatal), nutritional disorders, and probably a number of others.

Vitamin A is formed in the liver; vitamin D, in the skin, by sunlight or ultraviolet rays. If a child's diet is deficient in vitamin A, growth is retarded. A lack or deficiency of vitamin B_1 may cause premature thymus regression. Vitamins B_2 and C favor growth.

When the fetus is growing most rapidly, its endocrine glands are not functioning and its hormone supply comes from the mother, and this maternal supply is frequently *stored* in the fetus, so that signs of deficiency do not appear at birth. This accounts for the fact that gonadal hormones, especially estrin, are found in newborn infants for several days, and that "pregnancy reactions" may be obtained with the blood of male infants.

The endocrine glands primarily concerned with growth and development are the pituitary and the thyroid, and secondarily the adrenals, pineal, thymus, parathyroids, and the pancreas. The pituitary appears to direct this orchestra.

Gross thyroid deficiency is recognized as cretinism, and if treated early, with thyroid extract, the patient improves remarkably, but may relapse if the treatment is discontinued. Mild or moderate hypothyroidism is relatively common and retards growth. If discovered and treated early, cures are apparently obtained.

The growth hormone of the anterior pituitary appears to regulate the closure of the epiphyses. If it is present in excess, this closure occurs late and gigantism results; if deficient, it occurs early, and dwarfs appear.

In cases of pituitary dwarfism, parenteral injections of mixed anterior pituitary hormones or growth hormone, 1 to 2 cc. daily or on alternate days, along with a well balanced diet containing enough vitamins A and B, *if begun before the epiphyses are closed*, will produce gratifying results.

Interesting studies have been made upon the functions of the thymus, but here, as in all other conditions, we must remember that we cannot safely translate animal experiments directly into clinical practice.

ENDOCRINES AND THE GENERAL PRACTITIONER

By George B. Lake, M.D., Waukegan, Ill.

Ninety percent of chronic cases include some endocrinopathy, generally a deficiency and almost always pluriglandular, so all general practitioners should know enough endocrinology to diagnose and treat these conditions adequately.

Opotherapy, with extracts of whole glands, given by mouth, and hormone therapy, with single hormones (now often synthetic or of non-glandular origin), given parenterally, are both important methods, but *quite different* in their purposes and results. The former is of greater importance to general clinicians.

The commonest (practically universal) endocrinopathy is the *climacteric*, in men and women. Most of these patients, especially the men, do not know what ails them, but the clever physician can find out (if he thinks about it and *tries*) and can give these uncomfortable, middle-aged people a great deal of relief, for which they will be very grateful —and will pay well.

There are a number of good preparations of the estrogens, for oral administration to women, and fewer of the male sex hormone for the men. Testicular extracts and testosterone are now being used with success in some cases of menstrual and climacteric disturbances in women. A recent and promising addition in this field consists of preparations of testosterone propionate, such as Oreton ointment, to be given by *inunction*. Men should be warned that gonadal substitution therapy may increase their sense of general wellbeing without improving their potency, though it may do both. In these cases, the treatment must be continued, more or less intermittently, throughout life, not as medicine, but as a specialized *addition to the diet*.

Next in frequency are the *minor adrenal deficiencies*, caused by all acute illnesses and by the stress of modern life, and characterized by an almost constant sense of fatigue, with a low blood pressure. Most of these cases respond well to whole adrenal or cortical extracts, given by mouth over long periods. In acute illnesses it is well to reenforce the adrenals *before* they give out, by administering a preparation like Correlin (Harrower) *from the start*. In cases of chronic fatigue with a relatively normal blood pressure, try giving glycocoll, as Knox gelatin (1 to 2 ounces a day of the dry substance) or as Squibb's Glycolixir.

Cretinism is rare, but *minor hypothyroidism* is common. Most of these patients are considered stupid and lazy. They are often drowsy, and skin and menstrual disorders are not rare. Basal metabolism tests may be helpful in diagnosis, but should not be relied upon exclusively. These patients often improve dramatically on thyroid (*not* thyroxin) treatment. If undue sleepiness in the daytime is the chief symptom, try Benzedrine (amphetamine) Sulfate.

Do not forget the *psychic symptoms* in minor hypothyroidism. "Difficult" children frequently become normal under thyroid treatment.

When the thymus fails to regress at puberty the individual remains, psychically, emotionally, and socially, a child, though he or she may be fully developed physically. A high percentage of criminals has been found to have persistent thymus. Every "problem child" or "juvenile delinquent" is entitled to a complete study of his endocrines, especially the thyroid and thymus.

These are only a few out of many endocrine disorders that *all* general practitioners should be understanding, diagnosing, and treating *daily*, to the great enhancement of their professional ability and reputation and of their economic status.

The Clinical Interpretation of Abdominal Pain*

(With Special Reference to Surgical Diagnosis)

Part II

By

PAUL E. CRAIG, M.D., Coffeyville, Kans.

Perforative Lesions

1.—Perforated duodenal or gastric ulcers.
2.—Perforated typhoid ulceration.
3.—Rupture of an ectopic gestation.
4.—Trauma.
5.—Perforation of the gallbladder.

1.—The *perforation of a gastric or duodenal ulcer* is sudden and unheralded in its onset. The pain is lancinating, agonizing, and burning in character, occurring during a period of activity rather than of rest, and is continuous. There is a protective rigidity of the abdominal muscles, especially the rectus abdominis. Frequently, in a short time after the onset, the patient states that the pain seems to pass down to the right side of the abdomen, as if a searing, burning liquid were slowly trickling downward toward the iliac region. The abdomen is scaphoid, and the rigidity of the muscles board-like.

The late John B. Deaver used to say, "The diagnosis of this condition can be made in the dark by merely placing the hand on the abdomen." The abdominal respiratory excursions are scarcely perceptible. The patient lies flat in bed in a fixed, statue-like attitude. His facial expression is anxious. He objects bitterly to any change in position which requires voluntary muscular effort. Pain between the scapulae may be mentioned by the patient as peritonitis progresses, abdominal tenderness develops, and liver dullness becomes obliterated.

Eighty (80) percent of acute perforations of duodenal ulcers occur on the anterior wall, and 90 percent of acute perforations of gastric ulcers occur on the lesser curvature of the stomach, in the prepyloric portion. Eliason[5] maintains that, if the history of an ulcer patient is carefully examined, warning of an impending perforation can be found. He states, "When ulcer symptoms change, the pathology changes. During the ulceration stage, limited to the mucosa and submucosa, the patient has the ulcer triad of food ease, hunger pain, and periodicity of attacks. When food no longer stops the pain, when the pain becomes constant and changes to a pinching or sticking character and is associated with referred pain, the peritoneum has become involved and perforation threatens."

The syndrome of an anxious expression; a scaphoid, fixed abdomen; and a "frozen" attitude is typical. An operation should be performed at once, since the mortality is in direct ratio to the time elapsed between the perforation and the operation.

2.—*Typhoid perforations* usually occur in the third week of the disease, and are both sudden and unexpected. The pain is sharp, severe, and paroxysmal in character, and is located in the hypogastrium and to the right of the midline. There is tenderness in the right iliac quadrant, with muscle spasm and a *sudden drop* in temperature. Liver dullness is obliterated, and immediate operation is the patient's only hope.

3.—*Ruptured ectopic gestation* is exceedingly treacherous, as it may strike insidiously or suddenly and prove rapidly fatal. There is a history of a missed menstrual period, followed for from ten days to two weeks by irregular vaginal bleeding, with cramping or bearing-down pains which become progressively worse. In many cases the onset is sudden and intense, with intermittent hypogastric pain, which darts to one or the other of the iliac regions, is radiated to the back and down the thighs, and is accompanied by fainting, nausea, vomiting, shock, and collapse, together with symptoms of internal hemorrhage. The temperature may be normal or subnormal. There is, as a rule, a pronounced leukocytosis (up to 30,000).

Bimanual examination; tenderness on the side where rupture occurred; disturbance of the menstrual cycle; slight vaginal bleeding; severe pain in the lower abdomen; normal or subnormal temperature, with marked leukocytosis and symptoms of intra-abdominal bleeding, complete the diagnostic picture and call for immediate operation in order to forestall vascular collapse.

4.—*Trauma:* There is, in these cases, a history of injury and the presence of a wound. Pain may not be the important factor; however, perforation of a hollow viscus requires early surgical intervention. The appearance of free air under the diaphragm, when a roentgenogram is made, is diagnostic. In a case of fractured pelvis, with suspected rupture of the urinary bladder, it is always advisable to catheterize the bladder and inject a known quantity of sterile water. The amount recovered is then measured. Laparotomy should be performed at once on all injured abdomens where the patient is showing signs of increasing hemorrhage.

5.—*Perforative cholecystitis:* According to Abell[6], the acute obstructive type of cholecystitis should be placed in the emergency group, since 95 percent of all cases of gangrene and perforation occur in acutely obstructed and infected gallbladders.

Obstructive Lesions

1.—Renal colic.
2.—Gallstone colic.
3.—Acute intestinal obstruction.
4.—Torsion of an ovarian cyst.

1.—*Renal colic* is intense and colicky, and has its origin at either costal margin. The pain gradually moves downward in the abdomen and is referred to the groin, genitals, or inner side of the

*This is the second and last part of a two-part article.

thigh. The patient is restless and bends forward, applying manual pressure over the abdomen. Abdominal rigidity is not marked. Tenderness is absent until after the attack has subsided. The temperature and leukocyte count are normal.

2.—*Gallstone colic:* The pain is sudden, stabbing, intermittent, and constricting in nature, and is localized in the right upper quadrant of the abdomen. The patient is restless and threshes about in bed. The pain is definitely in the gallbladder region or is referred to the right shoulder blade. Tenderness on pressure appears early, since there is a generalized inflammation with gallstones, increases with the progress of the attack, and remains long after the colic has subsided. It usually succeeds dietary indiscretion, and vomiting quickly follows. After the stomach is emptied, uncontrollable retching persists, with the production of small amounts of bile. There is a history of repeated attacks, epigastric distress, fullness, and belching after eating heavy foods. Jaundice is present only when the common bile duct is obstructed. The attacks recur with increasing frequency. X-Ray and Graham tests are of value only in determining the functional integrity of the gallbladder.

3.—*Acute intestinal obstruction:* The pain is wave-like, colicky, and severe. Peristalsis is visible, and vomiting persists even after the administration of large doses of sedatives.

The clinical picture depends on whether the obstruction is high or low in the gut, and whether it is partial or complete. In small bowel obstruction the pain is sudden, rhythmic, and colicky. Rigidity is not marked, and constipation does not follow at once. Vomiting is early and persistent. The short length of small bowel minimizes abdominal distention. X-Ray studies are invaluable in identifying fluid levels in distended loops, which assume a "stairstep" arrangement.

The mortality rate in small-bowel obstruction is 50 percent; but in bowel obstruction due to strangulated hernia the mortality is only 6 percent, because the diagnosis is promptly apparent. It is obvious that the mortality varies directly with the promptness of the diagnosis and the institution of surgical measures. Early, there are colicky pains, vomiting, and hyperperistalsis; but to wait for sunken eyes; anxious facies; weak, rapid pulse; dark, foul vomitus; cold, moist skin; and obstipation, is to give to the patient little hope of recovery.

Abdominal auscultation is of paramount importance in making a diagnosis of intestinal obstruction. Loud, stormy, and reverberating peristaltic sounds can be heard above the point of obstruction in cases of dynamic ileus, with an absence of such sounds below. When metallic tinkling is heard on auscultation, it is indicative of complete mechanical ileus. To quote Flaxman[7]: "One should listen with the stethoscope over each abdominal quadrant at least three minutes, in all cases of suspected ileus, to ascertain whether the obstruction is paralytic, mechanical, nonsurgical, or operative in character."

In large-bowel obstruction, constipation is early and distention is pronounced. Vomiting is usually a late symptom. One must not be misled by clinical improvement following the use of an indwelling duodenal tube and intravenous solutions. The patient admittedly may feel better, but these measures will never relieve the obstruction. Surgery is the only recourse.

4.—*Torsion of the pedicle of an ovarian cyst:* The pain is sharp, intermittent, and is felt in the hypogastrium or in either the right or left iliac region. There may or may not be vomiting. The pain is not referred. There is tenderness at the site of the lesion. Rigidity is usually absent, and a smooth, fairly movable mass can be palpated at the site of tenderness.

Wechsler[8] has observed that tumors and expanding brain lesions may, at times, produce acute abdominal pain, due to a visceral autonomic representation in the cortex. Certain types of encephalitis may also cause severe abdominal pain.

It must be remembered that multiple lesions may be present. Such combinations are seen as renal calculi, associated with gallstones; gallstones with duodenal ulcer; gallstones with appendicitis; and appendicitis with renal calculi. Every patient must be studied *completely.*

Special Procedures

Cope[1] advocates the use of three of the following procedures for the satisfactory demonstration of local or diffuse peritonitis. I employ them regularly and find them of the utmost value.

1.—The first test depends on the *determination of the rigidity of the iliopsoas muscle.* The patient lies on the side opposite the lesion, and extends the thigh on the affected side to the fullest extent. Pain will be caused if the psoas is rigid from either reflex or direct irritation. The test is positive in appendicitis and in cases of infection in the uterine adnexa.

2.—The second or *"thigh-rotation test"* is positive when there is an inflammatory mass adherent to the fascia over the obturator internus muscle. Rotation of the flexed thigh puts the muscle through all of its movements, causing hypogastric pain. This test should be resorted to when rectal examination is impossible or inadvisable. When positive, it indicates perforated appendicitis, local abscess formation, hematocele in contact with the obturator internus muscle, or an accumulation of inflammatory fluid within the pelvis.

3.—The third or *peritoneal reflex test* is concerned with stretching an inflamed or irritated peritoneum. In simple abdominal colics, firm pressure with the palmar surface of the open hand will usually give relief from pain; but in acute visceral pain this procedure will enhance rather than relieve it.

The Blumberg, or socalled *rebound test,* is performed in the following manner:

The palpating fingers are pressed deeply into the abdomen toward the affected side, and are suddenly withdrawn. The patient will cry out in agony if there is any appreciable irritation of the peritoneum.

4.—The fourth and last test is related to the phenomenon of *cutaneous hyperesthesia* and is proposed by Mortola[9]. It is performed as follows:

With the patient lying in the dorsal decubitus position, a large fold of anterior abdominal wall, in either the lower right or left abdominal quadrants, is grasped between the thumbs and index fingers of both hands, and traction is exerted. When the parietal layer slips over the visceral layer in the pathologic zone, intense pain is experienced. The intensity of the reaction is directly proportionate to the degree of peritoneal inflammation.

Staley[10] has published a comprehensive abstract

of all **conditions producing abdominal pain.** He lists them as follows:

ACTUAL ABDOMINAL DISEASE

1.—*Acute appendicitis:* Sudden onset; characteristic pain; slight initial fever; local abdominal signs.

2.—*Inflamed or perforated duodenal ulcer:* General appearance; characteristic pain; vomiting; and abdominal signs.

3.—*Acute pancreatitis* (less than one percent of acute abdominal diseases): Sudden onset; shock; collapse; early, copious, bile-stained vomitus; abdominal distention; and local tenderness.

4.—*Acute intestinal obstruction:* Pain; shock; vomiting; constipation; distention; tenderness of the abdomen; visible peristalsis.

5.—*Intussusception* (the most common abdominal emergency in children under two years of age): Abdominal pain; shock; passage of mucous and blood by rectum; vomiting; an abdominal mass; visible peristalsis; constipation; tenderness; distention; appearance of a mass at the anus; and peritonitis.

6.—*Cancer and volvulus of the large bowel;* Signs of obstruction or ulceration, or both.

7.—*Incarcerated and obstructed hernia:* Demonstration of the hernia, and signs of obstruction.

8.—*Torsion of an ovarian cyst and pyosalpinx:* Tumor and acute symptoms.

9.—*Ectopic gestation:* Signs of pregnancy, pain, and shock.

10.—*Cholecystitis:* Pain, vomiting, fever, constipation, local tenderness in the right hypochondrium, and swelling in the region of the gallbladder.

11.—*Acute abdominal injuries:* Surgical treatment is demanded when there are impending signs of early peritonitis or intra-abdominal hemorrhage.

12.—*Pyonephrosis:* A tender swelling in the loin, high fever, toxemia, and perhaps pyuria.

13.—*Perinephritic abscess:* Swelling in the loin, local pain, fever, and aspiration of pus.

14.—*Mesenteric thrombosis:* Rarely diagnosed before the abdomen is opened. Signs and symptoms of acute mechanical intestinal obstruction. Immediate operation is indicated.

Diseases Which May Simulate Acute Abdominal Disorders

1.—*Influenza:* (General symptoms outweigh the local).

2.—*Typhoid fever:* (The course of the disease and laboratory studies clear the diagnosis).

3.—*Tuberculous peritonitis:* (Intestinal obstruction and perforative peritonitis sometimes occur in the course of this disease, and may require surgical treatment).

4.—*Food poisoning:* (History of ingestion of tainted food and immediate onset of illness; absence of local signs, rigidity, etc.)

5.—*Acute lymphatic or myelogenous leukemia:* (Blood count, embolic phenomena, and splenomegaly).

6.—*Pleurisy and pleuropneumonia:* (Flushing of the face, high fever from the onset, dilated alae nasi, and local signs in the thorax).

7.—*Acute cardiac disease,* especially angina pectoris and coronary thrombosis: (The diagnosis is usually clear after a careful examination of the circulatory system).

8.—*Diseases of the brain, spine, or spinal cord:* (Acute osteomyelitis of the dorsal or lumbar vertebrae; Pott's disease of the spine; tabes dorsalis. The diagnosis in each of these depends on the neurologic findings).

9.—*Heavy-metal poisoning,* especially arsenic and mercury.

10.—*Uremia:* (Dry, furred tongue, albuminuria, and variable blood chemistry findings).

11.—*Cerebral accidents* — "indigestion," stroke: (Blood pressure and local neurologic signs clear the diagnosis).

12.—*Diabetic acidosis:* (Blood chemistry studies and urinalysis).

13.—*Henoch's purpura* must be differentiated from intussusception, in children.

14.—*Biliary colic:* (Intensity and distribution of pain, and absence of local abdominal rigidity when pain passes off. When associated with cholecystitis or local peritonitis, it should be classed with acute abdominal diseases).

15.—*Pyelitis:* (High temperature—103° Fahrenheit or more from the onset; frequent micturition; and pyuria).

16.—*Acute mesenteric lymphadenitis:* (Age 3 to 35 years—average, 13.6 years; respiratory symptoms prominent; pain usually localized throughout the attack; average leukocyte count, 9,800. Must be differentiated from acute appendicitis).

Summary

1.—The mortality rate in acute abdominal emergencies remains very high, in spite of our improved surgical technics.

2.—If we hope to reduce the mortality rate, we must make early and accurate diagnoses. In many abdominal diseases, pain and tenderness alone are sufficiently characteristic to enable us to make a positive diagnosis before the socalled textbook picture appears.

3.—If we interpret pain properly, there is little doubt that it will, in the vast majority of cases, guide us unerringly to the seat of the lesion.

Conclusion

If, after honest, painstaking efforts, a definite diagnosis cannot be made, and the decision still hangs in the balance, I should rather apologize for opening an abdomen too soon than too late.

Bibliography

5.—Eliason, E. L.: *A. J. Surg.,* Vol. 31, p. 275 (Feb., 1936).

6.—Abell, Irvin: Acute Abdominal Emergencies. *South. M. J.,* Vol. 31, p. 39 (Jan., 1938).

7.—Flaxman, N.: Auscultation of the Abdomen. *J.A.M.A.,* Vol. 105, p. 384 (Aug. 3, 1935).

8.—Wechsler, I. S.: Abdominal Pain As a Symptom of Disease of the Brain. *J.A.M.A.,* Vol. 105, p. 647 (Aug. 31, 1935).

9.—Mortola, G. A.: New Maneuver for Abdominal Examinations. *Prensa Med. Argent.,* Buenos Aires, Vol. 22, p. 176 (Sept. 11, 1935), Abst. *J.A.M.A.,* Nov. 16, 1935.

10.—Staley, J. S.: Acute Abdominal Emergencies. *Va M. Monthly,* p. 296 (Aug., 1936).

201 W. 9th St.

Physical and Office Therapy and Radiology

Fighting Cancer Electrically

THE war against public enemy number one of the human body is being waged earnestly and persistently, and there is every reason to believe that sooner or later, and probably sooner, victory will be achieved. Were cancer positively of microbic origin there could be but little doubt that the micro-organism would eventually be isolated, together with its preventative serum or antitoxin. The concensus, however, is against the germ-origin of cancer and in favor of a disturbance in the metabolism of the cells of the affected part, resulting in a riotous growth of those cells. The cause of this disturbance in the cell metabolism, other than a long-continued irritation of the diseased part, remains obscure. Consequently, efforts toward the arrest of cancer are as yet more or less empiric in their nature.

The dual action of radio-active substances and the x-rays, when applied for the relief of malignant disease, has long been recognized, and this Jekyll-Hyde aspect has been the main deterrent in the general employment of these agents for this purpose. While very effective when directly applied to the cancerous tissue, they, unfortunately, can deleteriously affect healthy tissues as well, resulting in serious damage to sound parts and even in the production of cancer itself. For this reason, deep x-ray therapy has not given the satisfaction that was hoped for, or has even been totally inert in arresting the progress of the disease.

Scientists, however, are earnestly and indefatigably working on the problem of the destruction of cancer electrically or by means of radio-activity. New suggestions are constantly being made and tried. While these are not always effective, they are moving, we believe, in the right direction. Recently, two of these newer ideas have been tried with more or less satisfaction. It is too soon, however, to arrive at any definite conclusion as to their real value.

The studies of Burr, Smith, and Strong, of the Yale University faculty, as reported in the *American Journal of Cancer*, are especially intriguing. These investigations have revealed bio-electric differences between cancer-susceptible and cancer-immune mice. With the incidence of cancer, they report a peculiar and characteristic alteration in the electro-dynamic field of the mouse. In mice developing cancer before the 260th day, a marked rise in the voltage occurred, amounting to some thousands of microvolts in readings across the chest; and, most interesting to relate, in some cases this rise appeared from ten to fourteen days before the cancer could be palpated.

They conclude that these findings make it clear that "the onset of adenocarcinoma of the mammary gland does something to the electrical pattern of the organism, which can be measured with some degree of certainty. In the absence of exact information, it would seem probable that this effect upon the bio-electric properties is initiated at about the time the new growth appears. The data suggest, moreover, that, as the new growth proceeds, the chest potentials go up until they reach a peak not long after the tumor becomes palpable. This increase in voltage across the chest is not unlike the increase in head-tail gradients resulting in the salamander and chick. Unlike the growing embryo, however, the chest potentials return to within normal limits in from two to four weeks. This suggests that the animal has established a new equilibrium with respect to the new growth."

The practical application of these investigations is self-evident. It may be that we have here a

means for the early diagnosis of the advent of cancer by bio-electric changes; and anything which will aid in the early diagnosis of this disease will be extremely valuable in preventing or controlling its development.

An original and exceedingly interesting suggestion for the application of powerful x-rays to deep-lying cancer is that which has been recently made by Professor M. I. Nemenov, of Leningrad. As has already been stated, the external use of the x-rays over healthy tissues, in an effort to reach neoplasms of the viscera of the thoracic and abdominal cavities, has not yielded satisfactory results. Either the rays have failed to reach the affected organs with sufficient power to destroy the cancer cells, or the overlying healthy tissues have been unfavorably affected, resulting in the development of x-ray burns of the skin. Nemenov now advises the direct application of the rays to the roots of the sympathetic nerves supplying the affected organs. These nerves, as they leave the spinal column, lie close to the surface of the body, without any vital tissues which might be injured by the prolonged application of the rays overlying them. Nemenov claims that this method frequently gives far better results than does the direct raying of the site of the growth.

Such a method of treatment would be especially indicated in those cases which have progressed too far to permit surgical extirpation of the growth, or when the disease has attacked organs that are not amenable to surgical intervention. The theory involved is that the x-rays profoundly alter the impulses which are transmitted along these sympathetic nerves and ganglia, thereby arresting the growth of the disease.

The suggestion, at least, is interesting and well worth full investigation. The profession will await with interest reports of results obtained by irradiation of the sympathetic nerve-roots supplying the deep-lying organs of the body which are affected by cancer.

W. A. N. D.

★ *Notes and Abstracts* ★

Stiff Joints*

MANIPULATIVE surgery is the method of treatment employed, in association with other treatment or as a preliminary to other treatment, and deals with *local conditions of bones, joints, and muscles, involving impairment of mobility and displacement of structures.*

From a long experience in manipulating joints crippled by adhesions, my conclusion is that, if adhesions are successfully freed, and this procedure is immediately followed by coaxing the joint through its range of movements in all directions, and by treating all the muscles of the joint by graduated muscular contractions, the end-result, in correctly-selected cases, will be complete restoration of function, both in power and range of movement.

Rest is the wrong treatment for joint injuries. Inflammation normally causes the production of coagulable lymph, which is followed by adhesion formation. Rest permits the parts to become bound together. Owing to the element of pain, the rest treatment is naturally encouraged by the average patient. After adhesions form and the range of movement is decreased, the patient drifts to the osteopath and irregular practitioners, whose success, in some cases, is not due to replacement of a displaced bone, but to freeing of adhesions.

Manipulative surgery is based on three essentials:

1.—A sound knowledge of anatomy, physiology, and pathology of joint structures;

2.—A knowledge of the normal range of movements of all joints;

3.—A capacity to diagnose, as accurately as possible, the probable pathologic causes of interference with the normal range of joint movements.

Joint adhesions may be intra-articular or extra-articular, or both may be present in the same joint. Bands of fibrous tissue of varying length may bind together two or more surfaces of a movable part, such as a joint, and cause grave disability by the chronic irritation which leads to a loss of function, and chronic synovial inflammation with a collection of fluid in the joint sac.

It must be remembered that, for a joint to move comfortably and painlessly through its full range, every structure designed for movement must be capable of free and painless movement on every other structure to which it is adjacent. When muscles are atonic and wasted, the effect on a joint which they normally operate is to prevent its free and painless movement. Manipulation of the joint may be a necessary prelude before treating such wasted muscles, as such a condition is generally accompanied by loss of flexibility and suppleness of the areolar tissue, due to interstitial edema. Gentle, *daily* manipulations of such a joint stretch the part and, if active movements follow, either voluntarily or as a result of artificial electrical stimulation designed to cause controlled painless muscular exercise, movements become easy and painless.

Routine Examination

In the examination of a stiff joint, every detail should be carried out in a routine manner and the joints should be handled as gently as possible, not

**Brit. J. Phys. Med.*, Mar., 1939.

only in consideration of the patient's comfort, but because every movement which produces pain or causes anticipation of pain adds to the difficulty of differentiating between limitation of movement due to adhesions or to muscle spasm.

The extent of the normal range of the corresponding joint would be estimated by careful examination of its movements in all directions as a guide for comparison. *Painful areas, when touched, moved, or at rest, should be carefully noted, as they generally indicate the sites of underlying adhesions.*

The patient should lie comfortably on a couch and be encouraged to keep as relaxed as possible. Having gained the patient's confidence, the joint should be gently but firmly put through its movements in all directions of which it is normally capable. *Adhesions, when stretched to the point at which they resist, have a characteristic "springy" feel.* The object of manipulating a joint is to put it through the widest range of movements of which it is capable in all directions, without the assistance or resistance of the muscles which act upon it.

There is no difficulty in diagnosing adhesions where the limitation of movements is obvious, but where adhesions are so slight that only the last few degrees of movement are interfered with, cursory examination will not reveal them. If a joint is restricted in movements in all directions, it should be rested, as it is, or has been, in a state of acute infective arthritis. This rule may be followed if substantiated by a supporting history of gradual onset, as contrasted to the sudden stiffness following a comparatively recent injury, which would indicate traumatic adhesions.

SIR MORTON SMART, M.D.
London, England.

Physical Agents in Sinusitis

SHORT-WAVE diathermy affords a satisfactory means of heating through some of the accessory cavities of the nose. It is, in selected cases, a valuable method of treatment for acute and chronic sinusitis. Roentgen-ray treatments are of value in acute sinusitis, if there is no obstruction to drainage. Koch feels that simple hyperplastic chronic sinusitis can be cured with roentgen-rays.—*E. E. N. T. M.*, Nov., 1938.

[Acute sinusitis, accompanied by obstruction, is best treated by infrared irradiation over the affected sinuses, with intranasal sprays or instillations of 0.5-percent ephedrine sulphate in warm physiologic saline solution every three hours, and phenacetin compound tablets every three or four hours. Heat may be applied at home with hot, wet towels.—R. L. G.]

Sulfanilamide Plus Physical Therapy

SULFANILAMIDE will fail if localized infections containing necrotic tissue, such as mastoiditis, abscesses, or protected foci of infection, are present. Urinary-tract infections will not yield unless obstructions to the urinary stream are removed.

Local heat is the most efficacious method of dealing with localized infections of dead spaces. In epididymitis, the heat is applied to the epididymis; in perifolliculitis, the heat is applied to the penis. Plugs of mucus in the uterine cervix may act as dead spaces, as research has shown that they contain very little sulfanilamide. Synovial fluid in inflamed joints should be aspirated, as the recurring effusion comes from tissues containing sulfanilamide.

Inflamed joints require local heat. Gonorrheal infections which do not respond to sulfanilamide are treated with moderate artificial fever (103° to 104° F.) for a period of four hours. When the pulse rate exceeds 140, the short-wave current is discontinued, despite failure to reach the proper fever level.—E. G. BALLENGER, M.D., in *J.A.M.A.*, April 22, 1939.

Roentgenography of the Salivary Glands and Ducts

SIALOGRAPHY—the x-ray visualization of the parotid and submaxillary glands after the injection of Lipiodol into their respective ducts—has made possible a definite advance in the study of diseases affecting these organs. Many of the diseases affecting the salivary glands produce characteristic changes, which are readily demonstrable in the sialogram. The filling defect produced by a mixed tumor is seen as an orderly displacement or distortion of the duct system, while carcinoma may produce irregular filling defects in the duct and gland substance or puddling of Lipiodol and incomplete filling of the duct system.

Technic: A 2 cc. tuberculin syringe and a 20-gage, three-inch needle, the tip of which has been made blunt, or a blunt, fine-wire probe, and Lipiodol are needed. The oil (in its container) should be immersed in hot water before use, thereby increasing its fluidity. From 1 to 1.75 cc. of Lipiodol should be slowly injected into the duct.—JOHN V. BLADY, M.D., in *Radiol.*, Feb., 1939.

X-Rays in Diagnosing Tuberculosis*

WHEN the roentgen rays are used as the final method of diagnosis for tuberculosis, certain, physical limitations of this method must be held in mind, else the physician will join the ranks of the awe-struck public, to whom x-rays are still largely magic.

The roentgen-ray examination is usually limited to the chest, yet pathologic investigation shows that 12 percent of tuberculous infections are not found in the lungs.

On the usual single film, exposed in the posterior-anterior diameter, a considerable part of the lung is obscured from view by shadows of the heart, diaphragm, and so on. Sweany found that approximately 31 percent of lesions which can be detected by postmortem examination had their shadows thus obscured from view on antemortem films.

The roentgen-ray examination is such a gross method that areas of disease must be macroscopic in size before they cast shadows on the film that are visible to the naked eye.

As long as one can submit the same film to four different roentgenologists, and receive three or four entirely different interpretations, and as long as one

*J. A. M. A., May 13, 1939.

can submit the same film to the same roentgenologist on two different occasions and receive differing interpretations, it seems that many of the differences which have been reported are due to errors in interpretation, rather than to actual differences in the pathologic condition.

J. ARTHUR MYERS, M.D.

Minneapolis, Minn.

Look for FACTS AND COMMENTS among the advertising pages at the back.

Ultraviolet Radiation in Intestinal Tuberculosis

OVER a period of five years, those patients with intestinal tuberculosis who had been treated with ultraviolet radiation were improved; their symptoms lessened or remained stationary. The patients were given a smooth, high-calorie diet, rich in vitamins.—J. S. COULTER, M.D., in *Arch. Phys. Ther.*, Mar., 1939.

The Short-Wave Method of Removing Superfluous Hair*

THE equipment necessary for short-wave epilation consists of a short-wave generator of any wavelength and make; a variable resistance, to cut down the output of the generators; a foot switch; several sizes of bulbous needles or insulated shaft needles; a light needle holder; a Beebe's loup (for magnification); an adjustable, shaded lamp; a comfortable chair or couch; and epilating forceps. The physician who has any short-wave machine can complete the outfit at a small additional expense.

Technic: The patient is made comfortable on a chair or couch. The proper size needle is inserted into the needle holder, and connected to one side of the generator through the variable resistance. The indifferent pad electrode is connected to the other side and placed under the patient. Wearing the Beebe loup, the operator sits at one side of the patient and carefully inserts the needle into the hair follicle along the shaft of the hair, to a depth of from 2.5 to 4.5 mm., depending on the size of the hair treated, and the foot switch is pressed for a fraction of a second. With the proper adjustment of the machine, the hair will slip out without the slightest resistance, when grasped with the epilating forceps. If there is the slightest resistance, the machine is readjusted until the proper setting is found.

A little practice will enable one to acquire sufficient dexterity to remove hairs successfully, painlessly, and without subsequent scarring. The needle should slide in without any resistance and should never pierce the hair root. This may be accomplished by observing the angle at which the hair emerges from the follicle and by inserting the needle at the same angle.

With the bulbous needle, the current is concentrated at the hair root; with the insulated shaft needle, the insulation prevents concentration of the current on the skin surface, thus scarring is minimized with either needle. With this technic, 50 to 100 hairs may be removed at one sitting. Eight- to ten-day intervals between treatments seem to be best.

To overcome the difficulty encountered in the treatment of blonde patients and those with lanugo hair, a 5-percent ointment of fine Japanese lampblack, in a base of scented vanishing cream, is applied with cotton and rubbed into the skin. Simple vanishing cream is then used to wipe off the surplus, leaving the pore of each hair marked by a black dot. These black dots permit the operator to insert the needle with ease. After the treatment, the charcoal is readily removed with soap and water.

DAVID DEROW, M.D.

New York City.

*Arch. Phys. Ther., Feb., 1939.

Menopausal Arthritis

Menopausal arthritis usually affects the knees, but any joint bearing the weight of the body (hips, ankles) or manual labor (thumbs) may suffer. A common complaint of these patients is that their knees "let them down."

The knees appear swollen, the swelling being partly due to the fatty pads which develop in this and other situations at the menopause, and partly to distention of the joint by enlarged synovia and by an increase of synovial fluid. The line of the joint is tender, as are the fatty pads, and there may be ridging of the articular margins. There may be a proliferation of bone at the joint margin, as viewed roentgenologically. Quite frequently, in these women, a feeling of weakness in the knees, and slight limitation of range are produced by tender juxta-articular fat-pads alone. The symptoms tend to clear up after the menopause is over, unless osteoarthritis develops.

Treatment: The majority of these patients are relieved and the arthritis and other symptoms arrested in months, instead of years, by one or two months of pelvic diathermy treatments. Small doses of thyroid extract may be helpful. Local treatment to the knees may also be given, in the form of infrared irradiation or direct-current applications, followed by passive movements and exercises.—C. A. ROBINSON, M.D., in *Brit. J. Phys. Med.*, Nov., 1938.

The Treatment of Wassermann-Fast Syphilis

ELECTROPYREXIA seems to be of definite value in the treatment of the Wassermann-fast syphilitic patient. When it is used as a supplement to chemotherapy, it is of greater value; and conversely, the tolerance to heavy metals seems to be increased by the use of electropyrexia. A search for associated visceral lesions or other *syphilitic foci* is essential in all such patients.—J. K. HOWLES, M.D., in *Arch. Phys. Ther.*, Mar., 1939.

Mercury protiodide tablets, given by mouth, are still good therapy for syphilis, regardless of whether the patient has a positive or negative Wassermann test.—E. HESS, M.D., in *Arch. Phys. Ther.*, Mar. 1939.

A Living for the Doctor

The Business of Medicine and the Art of Living

✶

Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

How to Choose a Vacation

SOME people look upon a vacation as a time to rest and do absolutely nothing; but the dictionary says it is the cessation from one's ordinary occupation. The more completely a man abandons his usual duties and turns to entirely different forms of activity, the more good his vacation will do him. A long, cross-country hike would not be a very satisfactory vacation for a mail carrier.

When a man's regular work calls for much mental effort, and he spends most of his time seated at a desk, he needs to put in a few weeks each summer living out of doors and engaging in *reasonably* active physical pursuits. Some men start out, after eleven months in a swivel-chair and a limousine, and try to climb mountains for a month. A number of these die of heart failure, and many more come home physically exhausted and have to spend a week or more in recuperating from their vacation.

If a man's daily duties require heavy physical labor, his vacation should consist of physical rest, together with some mental activity, or of quiet sports. For such a man a sea voyage is excellent; or he may go on a fishing trip in a locality which does not require too much exertion to reach. If he is studiously inclined, he can have a beautiful month in a hammock, with plenty of books.

If your work keeps you constantly among people, take your vacation alone; and if you earn your bread by lonely labor, get out and mingle with your kind. The former kind of worker will be refreshed and strengthened by a month in the north woods, far from the haunts of men; while the latter will get the fillip which his solitary soul requires from a period at some lively summer-resort.

The housewife should spend her vacation at a hotel, where she will not have to give a thought to preparing meals or making beds. The farmer should go to the city for change and recreation; and the city man to the country.

These, then, are the rules to use in choosing one's vacation:

1.—Do the thing you *want* to do, but for which you have no time during your working months.

2.—Make vacation activities as different as possible, in every way, from those of your daily work.

3.—Be moderate. Remember, the athlete goes into training before he "does his stuff."

4.—Plan your vacation within your means, so that it will not be spoiled by financial worries.

5.—Cut loose *entirely* from your work and *forget it.*

These are sound suggestions for the physician himself, and will also form the basis for intelligent advice to such of his patients as may ask him for his counsel in this matter, as the vacation season approaches.

G. B. L.

Clinical Research

EVERY physician asks himself, when he or another member of the profession has worked out a new technic, a new treatment, or a new medicine, "Will it give better results?"

The most obvious method of answering the question is to compare the end-results with similar cases that he has seen.

Equally obvious are the disadvantages of this method: (1) He may have had so few cases of the disease, some of which recover spontaneously, that his judgment cannot be based on true therapeutic worth; (2) unless he keeps records of each case, it will be difficult to compare the two methods point by point, and he must fall back on generalities; (3) the type of patient he cares for may be very different from those who come to the average physician; (4) he may keep statistics only on the duration of the illness, extent of fever, morbidity, mortality rate, et cetera.

There has been an increasing tendency, in medical literature, to place a greater value on a series of 200 cases reported from a county hospital, than

that accorded to 15 private cases which were studied as *patients*, rather than as hospital charts. Quite often there is no correlation between the therapeutic results that may be expected in dealing with a group of malnourished, uncooperative patients, housed in cheerless wards, and in handling a patient whose previous health has been good and who is not suspicious of his physician.

The limitations of the individual physician in evaluating end-results have been reiterated often. What has been overlooked is that a large series of cases entails second-hand knowledge. The physician who has attempted to gather statistics from a series of charts soon realizes, if he is analytically minded, that he and his conclusions are at the mercy of the often carelessly recorded forms.

The general practitioner can do much to advance the art and science of medicine, for he has the inestimable advantage that he can follow his patients for years. If he will but lose his present-day inferiority complex, and at the same time not lose his balance, he can render valuable service.

R. L. G.

A Thought Precipitant

ALL good cooks know that, if a pot of coffee is turbid and full of suspended particles, all of the "muck" can be precipitated and the whole brew cleared by adding a small amount of white of egg —even the minute quantity that clings to the shell when the raw egg has been removed from it.

In the murky turmoil of propaganda and counter-propaganda regarding the various political "isms," which is occupying so much space in the public attention today, it is difficult for one who has not given a great deal of thought to the subject for years, to make head or tail of the conflicting claims and charges and discover where the real danger to our national life and institutions lies.

Here is one small idea that may possibly act as a precipitant in our thought processes and clarify them somewhat.

After careful study and observation, we have not located one active and avowed Nazi or Fascist who is occupying any position of importance or power in our local, state, or National government. If any of our readers know of any such, we shall be happy to be informed about them, with full comfirmatory evidence, of course.

On the other hand, everyone who reads at all is well aware that there are scores and hundreds of frankly confessed and openly and extremely active Communists who are occupying such positions throughout our entire governmental structure, but especially in Washington, while there are hundreds more in such positions, whose sympathetic attitude towards subversive organizations and activities is a matter of public record.

Try these facts in your mental coffee pot and see if any of the grounds will settle to the bottom and make your thought processes clearer.

G. B. L.

★ *Notes and Abstracts* ★

Why Medical Ethics?*

TWO men were in partnership in the grocery business. One day one of them said to the other: "Bill, what's all this I hear about ethics? What are ethics, anyway, do you know?"

"I'll tell you, Charley," Bill replied. "Here's an example. A man comes in to buy some goods while you are out of the store. He buys ten dollars' worth, and gives me a ten-dollar bill. I take it over to the cash register, and when I start to put it in, I find there are *two* ten-dollar bills stuck together—the man has given me twenty dollars instead of ten. Now this brings up a question of ethics. The question is: shall I tell *you?*"

That's one kind of ethics. We will all agree it is not the kind that should be encouraged, nor is it the kind on which a permanently successful business can be built.

Dr. Richard Cabot, of Boston, once said: "Most of what used to be called goodness has rightly fallen into disrepute because it is inefficient. As I see it, ethical diagnosis, like physical diagnosis, has a practical end."

Dr. Cabot believes that a code of ethics is composed of tacit agreements between people, so that each one knows what to expect of the other. The question doubtless has arisen in the minds of most thinking people, "Why shouldn't I do as I please? Why should I be bound by any rules or responsibilities to duty, or to custom, or to public opinion?" And the answer simply is that other people won't let you keep on breaking the rules—you cannot permanently get by—you will be found out in time, and then others will cease giving you the things you expect from them, because you have failed to give them what they expect of you.

In a word, there are always certain guiding principles of behavior among all groups and in all relationships of life. They differ and they change, but they constitute working agreements that enable us to live together. So there are guiding principles between the doctor and his patient, principles the doctor must observe to be permanently

*Radio address over WHAM, Rochester, N.Y., November 15, 1936.

and genuinely successful. There are also principles of behavior the *patient* must observe, if he is to be a successful patient, and get all that he expects to get from the doctor.

Let me quote from what are known as the Principles of Medical Ethics of the American Medical Association. "A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals."

This situation is not matched in any other calling or pursuit. An engineer who invents a new process or device gets all the advantage of a patent; a writer who creates a worthy novel or play gets all the advantage of a copyright; the doctor gets nothing. Only the quack has a secret "cure" which he claims is his own infallible method. The kind of man capable of making a contribution to the care of the sick is always the kind of man who at once makes his knowledge known to the medical profession and thus to the world, which has the advantage of it free of any royalty for use. The discoverer's reward is often greater than any monetary one could be—the satisfaction of having done a useful service, and perhaps also, great personal prestige.

Now while financial gain is, I am glad to say, a subordinate consideration in the mind of the doctor, it still must be a consideration, if he is to pay his bills and continue to heal the sick. The patient expects from the doctor the best he can give, and the doctor expects from the patient the best *he* can give, too. And the best the patient can give is not only to pay his doctor when and as he can, but even more importantly, it is to be sure to hold nothing back, to *tell him fully everything that can possibly affect his condition.* Another thing that the doctor has a right to expect is that the patient shall follow the advice and directions which he receives.

There was a time when it was quite common for every town to have one or two advertising doctors, whose claims to cure almost everything by "new" methods, were brought loudly to the attention of the public. Invariably the physicians were incompetent. Otherwise, they would not have been driven to the point of obtaining patients by bragging. For some reason or other, these doctors had forfeited the good opinion of the people they knew, so that patients ceased to come to them, so they took the next step—the only one left to them within the ranks of medicine—to advertise for patients and accept people who knew nothing about them except as they might believe part of their extravagant claims. Being unable to make good on their promises, they obtained no new patients through the recommendation of old ones, and had to continue to rely on the beguiling of strangers. Advertising by doctors, *direct or indirect,* is vicious from every standpoint. It encourages practitioners to make claims they cannot justify; it robs the relationship of that bond of confidence which can be built only on years of service in the community; it encourages emphasis on the arts and devices of the advertising and selling business, to the disparagement of meritorious medical work which will ultimately become known through the recommendations of patients well served.

While most people are not aware of the rules of professional behavior, they may be observed in the conduct of the physicians of any community. They all operate for the benefit of *both the doctor and the patient,* not, as many people think, for the benefit of the doctor alone. They are standards of conduct, which, as Dr. Cabot said, have a practical end. The practical end is to enable the doctor to do his best for the patient. Most of them have to do with perfecting a confidential relationship, which is essential to good work. State Medicine would destroy this confidential relationship by interfering with the free choice of physicians. Whereas, now, the incentive of excellence is the motive power of the profession, under State Medicine the incentive would not be to please the *patient,* but rather the *officials* in charge of the public machinery of medical administration.

FLOYD S. WINSLOW, M.D.

Rochester, N. Y.

Beatitude*

INTO your hands, most dextrous, gentle, skilled.
I gave him, strange to pain and broken now
In body; but in spirit, deep instilled
By Spartan training, gallant, slow to bow
To miracle of surgery. And mine
Alone to make decision and to wait,
Dry-eyed, beyond the door that gives no sign.
So thin the line dividing life and fate!

You gave him back to me, restored, made new;
Eager for life. In hushed beatitude,
Before his virile, glowing praise of you,
I try in vain to speak my gratitude.
What Christ-like way to live a life! . . . . to give
One's life that yet another man may live!

RUTH CRARY CLOUGH.

How to Keep Patients

WHEN the general practitioner learns to relieve the pains of lumbago, sprains, neuritis, et cetera, by injections of anesthetics in oil, the chiropractor and his like will no longer see so many of his patients.—*Med. World,* Feb. 10, 1939.

The Physician and the Law

WHO are physicians? They are members of our community who are granted, by *law,* the privilege of practicing medicine. Who may be granted this privilege? Those who are qualified by *law.* What is the practice of medicine? It comprises certain activities defined by *law.* How is the practice of medicine conducted? According to rules established by *law.* What is the relationship between the physician and the patient? It is a status defined by *law. Can there be a doctor who isn't interested in law?*—W. G. MORGAN, M.D., LL.B., in *New Orleans Med. & Surg. Jour.,* May, 1939.

*From "Calliope's Gifts" (An Anthology).

Twelve Pillars of Achievement*

IT makes little difference when or by whom the following truisms of achievement were first set down, but it is of immense importance that the doers of worth-while things, in all lands and times, have, consciously or unconsciously, held these twelve ideas, or most of them, in memory, and have *acted* upon the knowledge of their vital importance.

1.—The value of time.
2.—The success of perseverance.
3.—The pleasure of working.
4.—The dignity of simplicity.
5.—The worth of character.
6.—The power of kindness.
7.—The influence of example.
8.—The obligation of duty.
9.—The wisdom of economy.
10.—The virtue of patience.
11.—The improvement of talent.
12.—The joy of originating.

The fact that, in the roster of man's literature, have appeared great essays, virile sermons, masterly books, built on each of these shining precepts, attests their worth to the spirit that is earnest, and their aid to the will that is wisely directed.—"CALEB," in *Chicago Tribune*.

New England Thrift

IT is reported that someone asked Calvin Coolidge just what was meant by "New England Thrift." Coolidge replied, "Eat it up. Wear it out. Make it do."

New England thrift can be overdone. Yet there come times in the experience of most people, business organizations, towns, states, and nations when disaster can be staved off if they know how to "Eat it up. Wear it out. Make it do."—RALPH R. PATCH.

★ *News* ★

A Seafaring Vacation

PHYSICIANS who have sons between 11 and 21 years old, who are keen about a seafaring life (and perhaps some patients with sons, too), will be interested in the offer of the American Nautical Academy to give such young men practical ship experience at a nominal cost. The training period extends from June 1 to October 1, 1939, and the trainees may remain for any *full month*, or more, between these dates. There is no charge for instruction or for living quarters on board ship; only for meals and for carfare to Hampton Roads, Va. Those who are interested should write to the National Training School for Merchant Marine Officers, Washington, D.C., for full particulars.

*Reprinted and adapted by courtesy of Marshall Field & Co.

★ *Books* ★

The Secret Doctrine

Blavatsky

THE SECRET DOCTRINE. The Synthesis of Science, Religion, and Philosophy. *By* H. P. BLAVATSKY. *The Adyar (Fourth) Edition (in 6 Volumes). Adyar, India: The Theosophical Publishing House (U. S. Agents, The Theosophical Press, Wheaton, Ill.).* 1938. *Price (Complete)*, $8.00.

THIS monumental work has been, ever since its first appearance, in 1888, and still is, generally considered, by serious students of occultism, as the earliest and, perhaps, the most important, complete, and basic presentation of the Hidden Wisdom now available to students of the Western races. Col. Powell's 5-volume work, a compilation which appeared between 1925 and 1930 and sells for $18.00, is the only one which can be compared with it for scope and completeness, and it lacks the force and authority of direct and unified authorship (or writership). "Isis Unveiled" (by the same author) was incomplete in many respects and cannot compare with this work.

This new (fourth) edition has had the benefit of meticulous revision by a corps of scholars, who have gone back to the original manuscripts (carefully preserved in India) for the settlement of every doubtful point, and have still further clarified and smoothed the English in which it was first written by a Russian woman who learned this language late in life. They have also added, for the first time: (1) A brief story of how "The Secret Doctrine" was written, compiled from archives and records; (2) a short sketch of the life of Mme. Blavatsky; (3) extensive bibliographies at the end of each of the five volumes of the text; and (4) a new and exhaustive index of the entire work (including an index of the bibliographic references), which fills 450 pages of Vol. 6, the other 50 pages being occupied by a new and very helpful glossary of Sanskrit and other technical terms used in the work.

To those who are wholly unacquainted with the literature of occultism, it would be futile to attempt to trace the origins of this tremendous document in the space available. Those who have gone only a short way along this fascinating path, know of this book by hearsay, or at least by name, so this review is largely a description of this, the most complete and satisfactory, and, remarkable to relate, the *least expensive* edition so far issued.

Volumes 1 and 2 deal with cosmogenesis; Volumes 3 and 4, with anthropogenesis; while Volume 5 contains the miscellaneous papers left by Mme. Blavatsky at her passing, edited, arranged, correlated, and annotated by Annie Besant. In some respects this last-mentioned volume is even more interesting, to less-advanced students, than the others. None of them is "easy" reading, but all are absolutely absorbing for serious and thoughtful students. Readers who are familiar with the most modern ideas of advanced scientists, will be astonished to find many of them set forth in this book, published 50 years ago.

Mechanically, this is the finest piece of Indian bookmaking which we have seen. The paper is of excellent quality — white, thin, but reasonably opaque, so that the volumes, which average more than 400 pages each, are of a convenient size and weight to handle. The type is a modern, open face, resembling Vogue, 10 point, with double leading—very easy to read. The binding is of dark-blue buckram, tastefully stamped in gold.

For the serious student of occultism, this Adyar edition of "The Secret Doctrine," at a price of $8.00, is the biggest book bargain we have seen in a long time.

The Seminar

★

(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 5 (Diagnostic)

Presented by R. L. Gorrell, M.D., Clarion, Ia.

(See CLIN. MED. & SURG., May, 1939, page 221.)

RECAPITULATION: A robust farmer of 64 years, who had never been ill, butchered a number of hogs and ate a great deal of pork about Christmas time, 1938. About three weeks later he had some chills and fever and symptoms of indigestion, which suggested influenza to one physician, who prescribed for him without an examination. The fever continued and, very insidiously, he developed pain in his legs, a sense of tiredness and stiffness, and finally, pain in the right inguinal region.

When first seen, February 8, 1939, he appeared very weak and ill; his temperature was 100.4 F.; pulse, 100; respirations, 24. There was slight tenderness in the right inguinal region and his right thigh was held flexed at a right angle with his trunk, attempts to extend it causing severe pain. A careful physical examination, including roentgenograms, showed no other abnormalities. His urine was normal, on routine examination, and blood studies showed nothing of importance except 12,000 leukocytes, with 1 percent eosinophils.

One week later his condition was about the same, with the addition of deep tenderness in the right costovertebral angle and lower abdominal quadrant. Short-wave diathermy treatments, four times a day, gave much relief of the general symptoms, persisting for 10 days.

Requirements: State your tentative diagnosis. What further procedures would *you* carry out to reach a definite diagnosis, *giving reasons?* What treatment is indicated, if any?

Discussion by A. C. Schnapp, M.D., Milwaukee, Wis.

This case shows the importance of obtaining a good, complete history. Six weeks previous to the onset of symptoms, the patient butchered and ate pork. Three weeks following the ingestion of pork, the patient began showing signs and symptoms of Trichina infestation, the outstanding features of which are, fever, chills, and gastro-intestinal disturbance. Pain in the legs, which this patient had, is an almost constant feature of trichiniasis. Edema usually is present with the pain. No mention is made as to edema of the face, especially under the eyes. The urine examination was negative, but incomplete. A microscopic study of the urine should have been made.

One should expect eosinophilia to be present in this case, but it is not essential in order to diagnose trichiniasis. The leukocytosis is entirely consistent with the picture.

I should be inclined to look upon the pain in the right costovertebral and inguinal region as a manifestation of polyneuritis, which is present in some cases of trichiniasis. An agglutination test was done, presumably for trichiniasis, which should be positive.

My diagnosis in this case is *trichiniasis infestation*. Further procedures one might carry out to reach a definite diagnosis are:

1.—An intradermal skin test, which seems to be positive in all but very mild cases. However, it may give false positive reactions in persons receiving quinine for malaria or arsphenamine for syphilis.

2.—A stool examination. The parasites may live for from five to seven weeks in the intestinal tract, and can be demonstrated.

3.—A muscle biopsy will show the encysted larvae. A section of pectoral or gastrocnemius muscle is preferable.

4.—Blood and spinal fluid examinations will sometimes reveal the presence of the larvae.

Discussion by E. O. Houda, M.D., Tacoma, Wash.

If an orgy of ten days' feeding on home-slaughtered hog meat had no bearing upon this man's condition, which came on in the fourth and fifth week after it, why is it mentioned so particularly? However, herein lies a likely approach to diagnosis, revolving about a moderate leukocytosis and eosinophilia.

In view of the negative findings by several physicians well-qualified in their respective fields, the items mentioned seem to be indices of "measly" pork infection. One blood count alone merely suggests the possibility of trichinosis. If there are no contraindications to the use of arsphenanine, an injection or two might prove to be, not only positive therapeutic tests, but curative as well.

Discussion by Stanley E. Zawodny, M.D., Milwaukee, Wis.

The condition that first comes to one's mind with a detailed history such as this, is trichiniasis. This rare disease is brought about by the ingestion of infested meat, particularly pork. The *Trichinella* is usually found as a larva in the muscles of rats. The pigs eat this, partially digesting the larvae but setting them free to develop into males and fe-

males. The males die, but the females invade the intestines and discharge eggs into the lymphatics. These then enter the voluntary muscles and grow, later becoming encysted. Smoking and freezing do not kill these cysts.

When human beings eat the infested pork, the same cycle occurs. The symptoms usually appear in from two to four weeks. Patients have gastro-intestinal disturbance, together with fever ranging from 99° to 102° Fahrenheit. With diarrhea, the condition appears similar to typhoid. Swelling of the face, and sometimes of the lower extremities, takes place. The affected muscles become stiff and painful. Examination of the blood reveals leukocytosis with an increased eosinophil count, and later may show anemia. The patients are weak and irritable and complain of headaches. Splenomegaly is frequently seen.

To complete the diagnosis, a biopsy of the involved muscles usually discloses encysted larvae of yellowish tint.

Early treatment consists of purgation. Late treatment is symptomatic, consisting of analgesics, diathermy, and hot baths. The mortality is somewhat below five percent. The duration of the disease is from ten days to eight weeks.

The common complications are bronchitis, bronchopneumonia, post-trichinal rheumatism, and femoral thrombosis.

Discussion by D. H. Nusbaum, M.D., Jackson, Minn.

This problem is such a conglomeration of symptoms that it will be difficult to offer an intelligent opinion on the case.

The condition was the result of eating too much pork. This resulted in an acute attack of indigestion, which overloaded the various organs with effete, undigested material, causing acute general acidosis, which gives rise to pain all over the body, especially through and in the abdominal organs and muscles, with some fever and elevation of the pulse rate. This also gives rise to joint and muscle pains, the same as an attack of rheumatism.

General treatment with hot baths and massage and appropriate medicines to act on the bowels and kidneys, and thus to stimulate elimination, would be in order, along with use of short-wave diathermy to hasten results. Mud baths are useful in such cases.

Discussion by S. M. E. Simon, M.D., Williamson, West Va.

To complete a diagnosis in this case, I should like to know what a gastric analysis showed, how many times a blood smear was taken, and also an examination of the stools would be required. A spinal serologic study, roentgenograms of the gallbladder, and a barium enema would be needed, in order to get a view of the ascending colon. After having all this done, the diagnosis could probably be easily made.

One would think at once of trichinosis, but there is not enough evidence found in the clinical examination. The symptoms and history are suggestive of *Trichinella* infection, but there is also a possibility that there is a malignant condition in the ascending colon, and the enlarged lymphatics would cause pressure over the adjoining sensory distribution. This would be easily discovered by a gastro-intestinal x-ray series. It is also possible, since nothing is mentioned in the history about diarrhea or constipation, or whether there was blood in the stools, that this patient could have also a regional ileitis or acute impaction of feces.

I have seen recently a similar case in a man aged fifty, with all the symptoms of *Trichinella* infection and localized pain in McBurney's region. Laparotomy revealed a spindle-cell sarcoma of the ascending colon, with extensive metastasis.

Chronic cholecystitis, an acute exacerbation of which was caused by the heavy food, could also cause pain in the right thigh.

Since the patient is 64 years of age, there is no doubt that his arteries must be pretty well hardened, and there is a possibility of an aneurysm of the right iliac artery or thrombosis of the superficial circumflex iliac vein.

If the x-ray picture of the gastro-intestinal tract and all the clinical findings I have outlined should be negative, and intestinal stasis or impaction or diarrhea are eliminated, and it is proved that there is no evidence of nematode infection, the diagnosis of thrombophlebitis or aneurysm should be definitely considered.

The treatment depends on the diagnosis.

Comments by George B. Lake, M.D., Waukegan, Ill.

The discussions of this problem illustrate the danger of being satisfied with the obvious, and looking no further. The man ate a great deal of pork and, some time later (*too much time*—three weeks. The gastro-intestinal symptoms of *Trichinella* infestation come on in three or four *days* after ingesting the infested meat), developed symptoms more or less resembling those of trichiniasis; but it certainly was not a *typical* case, or the various capable physicians who examined him would have made that diagnosis. Only Dr. Simon noticed this.

Several have stated that the various pains mentioned may have been caused by trichiniasis, but the *timing* is wrong (making the symptoms fit the diagnosis, rather than the diagnosis fit the symptoms), as the muscle pains of this condition come on from *one* to *two* weeks after the infestation, *not* after *five* or *six* weeks, as in this case. *Edema* is an almost constant sign in trichiniasis, and the eosinophilia is *tremendous* (up to *50 percent*, in some cases); while in this case there was no edema and the eosinophils were normal (1 percent). Moreover, the general leukocytosis (12,000) was low for this disease, which generally shows from 20,000 to 30,000 white blood cells per cubic millimeter. Most cases of trichiniasis (even rather severe ones) would have been *well* by the time Dr. Gorrell first saw this patient.

In addition to the signs and symptoms which tended to *rule out Trichinella* infestation, there were several which that diagnosis could not be *stretched* to cover. Not one discussant mentioned the somewhat rare and highly suggestive symptom of the *constant flexion of the right thigh on the abdomen*, with severe pain when it was extended This sign would, I am sure, have made all of these discussants think of a right *psoas abscess*, if their thought processes had not been sidetracked by the incident of the pork eating, and thus switched off to a disease so rare that most of them had probably never seen a case of it, and so had to rely on their memory of textbook descriptions, very imperfectly recalled.

Dr. Houda wonders why this incident was mentioned, if it had no bearing on the case, and the others, too, must have wondered, even if they did

not say so. It was mentioned because *it was part of the history given by the patient,* as he might have given it to you or to me. He could not have been expected to discriminate between what was important and what was unimportant. That is, definitely, a part of the job of the *physician,* who must not let his professional judgment be warped by the patient's statements, but must *sort them over* and give each one its proper value in the *complete picture* presented by the history, plus the findings of the physical and laboratory examinations.

The fact that Dr. Gorrell reported that a roentgenogram showed "clear psoas muscle shadows and a normal spine and pelvis," shows that he thought of psoas abscess when he first put the patient in the hospital; and all the other signs and symptoms fitted into that picture perfectly, though neither he nor any of the consultants could determine the *cause* of the abscess.

As this is written solely on the basis of the problem, *as presented,* I cannot make a more specific diagnosis than that, and I should have recommended an *exploratory operation,* through a *lumbar incision.*

It is my impression that this may prove to be one of the most *instructive* problems we have presented for some time, as it gives a vivid picture of the dangers which may result from being satisfied with the obvious.

Solution by Dr. Gorrell

(With a Note by Dr. John Waugh, of the Mayo Clinic)

Agglutination tests for typhoid, paratyphoid, and undulant fevers were negative. A blood culture failed to reveal any organisms. Repeated leukocyte counts were 12,000, 10,000, and 10,000, at three day intervals. Trichinosis was ruled out by the absence of eosinophilia and diffuse muscular tenderness.

Because of the persistent thigh flexion, a diagnosis of right psoas muscle abscess was made. As none of the etiologic factors for a perinephritic abscess were present (metastatic infection from furuncles or infection elsewhere; pyelonephritis; appendicitis; perforated intestine; upward extension of infection from the prostate, seminal vesicles, or bladder; rupture of the kidney), it was felt that the retroperitoneal pus might have arisen from a retrocecal appendix. Without any history of appendiceal pain or an attack of appendicitis, this diagnosis needed confirmation.

Dr. Schultz, an internist of Fort Dodge, Iowa, saw the patient in consultation and arrived at the same conclusion. The patient was referred to the Mayo Clinic.

Dr. John Waugh, of the Division of Surgery, kindly wrote this letter:

"Your patient was studied by Dr. Meyerding (orthopedics), who ruled out bone lesions; Dr. Pool (urology), who pronounced the urinary tract normal; Dr. Bargen (proctology), who felt that the patient had a right psoas abscess, either secondary to perinephritis or, more likely, a perforated appendix; Dr. Dixon (surgery) and I saw him and felt that the abscess should be drained.

"I made a muscle-splitting incision over the crest of the ilium and explored the kidney area. No evidence of perinephritis could be found and I could reach no abscess, either lateral or retrocecal. Neither was there any surrounding edema or evidence of inflammation.

"I opened the peritoneal cavity and found an *inflamed appendix* which had *perforated* in its midportion. When the appendix was delivered into the wound, an abscess was opened into, which was medial to and behind the cecum, out of reach of the palpating finger. The appendix was removed and the abscess drained, but considerable peritoneal contamination had occurred (culture revealed the green-producing streptococcus) and the patient expired on the fifth postoperative day, of *general peritonitis,* despite oxygen therapy and transfusions."

Anyone who had seen the dramatic improvement which followed the use of the short-wave diathermy for a few days could scarcely help wondering if we soon will not be able to conquer infections without draining them.

Problem No. 7 (Medical)

Presented by the Pittsburgh Diagnostic Clinic, through "International Clinics"

A MARRIED man, 36 years old, a teacher in the Department of Agriculture (so that he was out of doors a great deal), complained especially of loss of general energy ("tired all the time") and an itching eruption on his legs. He had no appetite in the morning, but it grew better through the day. At irregular intervals he would vomit a meal, but there were no constant gastro-intestinal or urinary symptoms. His hands and face were puffy and his complexion sallow, but not jaundiced. He says that he thinks and speaks more slowly than formerly and tends to feel chilly.

Two weeks before he was seen (in the late summer), his legs began to itch and he noticed red spots on them, which developed white centers and changed into blisters 5 or 10 mm. in diameter, which healed spontaneously in a few days.

Past History: He had recurring attacks of tonsillitis, and a tonsillectomy was performed one year previously; severe influenza in 1910; no rheumatism; two attacks of sudden, severe cramping pain in the lumbar region (3 years ago and 5 months ago), the first of which incapacitated him for 2 weeks, and the second for 3 days, but with no urinary symptoms nor pain or tenderness between attacks; no venereal history; had had hay fever, of the fall type, all his life.

His family history was negative; his habits regular and moderate; his wife and one child were living and well.

Physical Examination: Height, 67½ inches; weight, 147 pounds; temperature, 98° F.; pulse, 68, regular; blood pressure, 85/50. His movements were slow and he seemed listless, but not mentally depressed or unstable. The hair on his head was sparse. There was a distinct yellowish-brown pigmentation of his face, but not on the body; and slight, brawny, generalized edema, not pitting on pressure. The eruptions on his legs were as described. A complete, general, physical examination showed no other abnormalities.

Requirements: (1) Suggest a tentative diagnosis, stating your basis; (2) What further laboratory or other examinations would *you* have made or ordered? Discuss the bearing of *possible* results of such examinations on your final diagnosis and treatment.

Clinical Notes and Abstracts

There Are No Pathognomonic Symptoms

A PATHOGNOMONIC symptom or sign is one which is peculiar to or characteristic of only one disease. When it is present, the disease may be diagnosed unequivocally.

Modern medical science has rapidly reduced the number of such symptoms until it is questionable if any remain. The older physician depended upon one symptom to localize a disease. For example, pain in the chest, which was increased by deep respiration or by coughing, was *"pleurisy pain,"* resulting from pleurisy or pneumonia. An inflammatory condition in the lung or pleura should still be the first thought, but intercostal neuritis will produce the same symptom.

As Cabot[1] has so well emphasized, an acute infection of the kidney may result in such pain. The diagnosis remains obscure, because no pus appears in the urine. Gentle, deep palpation in the costovertebral angle or in the upper quadrant may elicit tenderness. A roentgenogram of the chest will help in ruling out a disease of the lung, especially lobar pneumonia. An excretory urogram indicates poorer function of the affected kidney and displacement from its normal position. Roentgenograms taken in several positions show that kidney does not have its normal mobility (a normal kidney should have a mobility equal to the vertical diameter of a lumbar vertebra). If urine is centrifuged at high speed for one-half hour, staphylococci may be found. Later, roentgenograms will show obliteration of the psoas muscle shadow and indicate perinephritic suppuration.

Enormous abscesses may develop without making themselves evident on physical examination, with fever as the only symptom. If the patient's pulse shows a strongly progressive tendency to rise, it is evidence that the patient is losing ground and requires our assistance.

A recent textbook states that *cough* should be kept in mind as a symptom that indicates lung involvement. The alert physician soon discovers that fully one-half of coughing patients have sinusitis, and that the postnasal drip of discharge causes the cough.

A little girl of five became ill with a high fever during an influenza epidemic. She was perfectly comfortable and symptomless. After three days had elapsed, her parents assumed that she did not have influenza and brought her for examination. There were no râles in either lung and no localized dullness, yet a roentgenogram showed complete consolidation of the right upper lobe. At no time did she cough or give any evidence of pain in the chest.

The most common symptom of appendicitis is *abdominal pain,* yet a not inconsiderable number of patients have pain in the lumbar area, the rectum, or the pelvis. If the appendix is buried in the retroperitoneal tissues, the only symptoms may be abdominal discomfort and fever. All clinicians have seen appendicitis develop without tenderness, in obese, elderly and diabetic patients, and in young children. Frequently, the only sign of pelvic appendicitis is tenderness elicited by rectal examination.

We tend to get into a rut, to expect a certain sign or symptom to set our reflexes going, and readily to overlook a diagnosis if a simpler one comes to mind. *The physician who is satisfied with his diagnostic ability is not checking up on the eventual outcome of his patients.* Even the elect make mistakes, but *they learn by their mistakes.* The simple man makes them over and over.

R. L. GORRELL, M.D.

Clarion, Ia.

1.—Cabot, Hugh: The Diagnosis of Sub-Acute Blood Stream Infections of the Kidney. *N. Y. S. J. M.*, 39:818 (April 15), 1939.

Inner Sickness

AN elderly patient in the office of one of my friends was telling off the roster of his complaints: "I have such a pain in my back," he said, "and so much gas in my stomach, and my knee hurts me, and Doctor, I don't feel so good myself."

To a layman, this seems paradoxical, but the physician accepts the distinction made by this patient as a valid one. There is a great deal of difference between that which affects one's knee and that which enters into the real center of one's being. We have all seen the patient with serious organic disease who remains happy, even jovial, with his symptoms regarded as mere peripheral discomforts; and, in great contrast, the neurotic patient whose inmost self is possessed with anxiety or fear.—E. B. EDIE, M.D., in *Penn. M. J.*, April, 1939.

The Tuberculin Test

IF these factors are remembered, the tuberculin test will be almost 100 percent correct: (1) A high-grade tuberculin must be used; (2) if the individual does not react to 0.01 or 0.1 mg. as the first dose, a second dose of 1 mg. should be administered in from 48 to 72 hours; (3) when a purified protein derivative is used, one should always employ the usual second dose for those who do not react to the first; (4) *the administration of a sufficient dose of tuberculin is important,* as a 10 to 20 percent error may result from using only the small dose; (5) for persons beyond middle life, larger final doses may be necessary.

Palpation is the best method of interpretation. If no induration or edema appears, the test should be recorded as negative. The tuberculin must be injected *into the layers of the skin,* not below them. — J. A. MYERS, M.D., in *J. A. M. A.,* May 13, 1939.

Plaster Casts in Acute Infections

I HAVE found that the application of a plaster cast will often permit an infection to heal that would have been very difficult, if not impossible, to control by orthodox methods. Spreading infections of the extremities are treated by immobilization of the extremity and the adjoining part of the trunk in a cast, with a window cut out for observation of the local process.

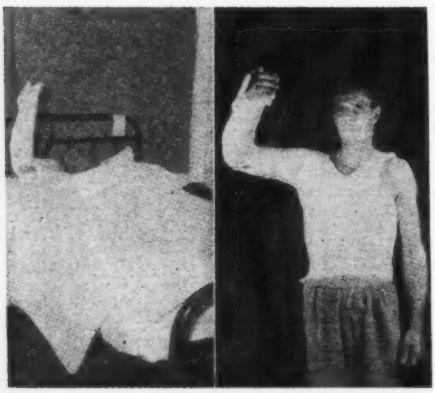

Fig. 1: (*left*) Immobilization of arm in a body plaster spica for phlegmonous inflammation of the hand. (*right*) Same patient ambulant. It is important that the extremity be placed in such a position that the hand will have maximum elevation in both recumbent and erect postures.

It is important that the cast be so applied that *maximum elevation* of the extremity is obtained (see Fig. 1). *Prompt relief of pain* is noted. — OWEN H. WANGENSTEEN, M.D., in *Minn. Med.,* April, 1938.

Skin Eruptions from Cosmetics*

THERE ARE many types of cosmetics which will cause skin eruptions. *Hair dyes* often cause eczema, not only on the scalp, but even in areas far removed. I have had patients who have been severely affected for months. It is generally advisable to make a preliminary test on a small skin surface before using these dyes, in order to be certain that no injury will result.

Hair removers: When hair removers are used in the axilla, not only a superficial eczema, but prolonged sweat gland infection and pustulation often result.

Hair bleaches: Skin injury results from the continued use of hydrogen peroxide, and may appear as simple dermatitis or gangrenous, pustulous exfoliations.

After the application of toilet (Cologne) water, exposure to sunlight results in pigmentation of a light brown to blackish color. (Vitiligo has been treated by the application of oil of bergamont spirits and ultraviolet rays. This oil is the offending substance in Cologne water.)

Even the apparently harmless *vaseline* may prove irritating to some persons. Some facial creams are irritating because of their content of boric acid, alum, mercury, or lead. *Freckle creams* should be used with great caution, because they often contain lead or mercury.

Soap may be irritating to the skin. Free alkali, perfumes, tar, resorcinol, sulphur, and other medicinal ingredients may result in dermatitis. Pine-needle tablets and other *bathing water extracts* may result in intense pruritus and even lead to a generalized dermatitis.

The physician should be ready to suspect any cosmetic as a possible cause of dermatitis. If dermatitis appears, the skin should be protected from any further irritation by the offending substance and should be thoroughly cleansed with boric acid solution, salt solution, chamomile, or oil. Pruritus may be relieved by calcium, or especially by calcium bromide injections.

ERICH LANGER, M.D.

Berlin, Germany.

Urol. & Cut. Rev., Mar., 1939.

State Medicine is poorhouse medicine. Tell your patients.

Treatment of Muscles During Arthritis

LITTLE regard has been given to the muscular wasting and atonicity which are often the most striking features of a joint inflammation. It must be obvious that restoration of muscle function is essential to return of joint function.

Blood circulates through the muscle as it contracts and relaxes. A muscle that is not used does not receive a good blood flow, and consequently atrophies.

In the early stages of inflammation, delicate adhesions begin to form in and about the muscles. At this stage they are readily prevented from becoming fibrous, binding scars, by the use of a properly designed electrical unit which results in painless, alternate contractions and relaxations of the muscles. When properly controlled, no pain is produced no matter how severely inflamed the joint is, as the contractions are not vigorous enough to pull on the joint. — SIR MORTON SMART, M.D., D.S.O., in *Med. World* (Lond.), Sept. 9, 1938.

Early Toxemias of Pregnancy

A WEIGHT SCALES, a blood pressure apparatus, and a simple test for albumin in the urine are all the equipment necessary to make a diagnosis of impending toxemia.

The average pregnant woman should not gain over 15 ounces a week. It is safer to undergain than to overgain. A large proportion of toxemic patients will be found to have exceeded the average gain.

The body will hold 5 or 6 liters of fluid before visible edema appears. We can control abnormal retention of fluids either by decreasing the fluid intake or by avoidance of substances which alter the osmotic tension of the tissues. Salt (sodium chloride) is the chief offender. Sodium bicarbonate and milk also furnish large quantities of salts. Both should be eliminated, the salt being replaced by potassium chloride. An increased protein intake will prevent the appearance of edema.

Renal function impairment is easily determined by use of a measuring cup and a urinometer. A specific gravity that does not rise above 1.022 indicates renal insufficiency.

If hypertension appears, small doses of phenobarbital should be given.—L. L. COCKERVILLE, M.D., in *Med. Ann. Dist. Col.*, April, 1939.

Benzedrine (Amphetamine) Sulfate in Schizophrenia

PRELIMINARY results in the oral use of Benzedrine (amphetamine) Sulfate (in some cases, intravenous injections, alternating with Sodium Amytal by mouth) in 57 cases of schizophrenia, indicate improvement in 40 percent of the patients, especially in early cases, catatonic types, and those where the intravenous-combined method was used.

This drug seems to be valuable in rendering patients more adaptable and accessible to investigation and psychotherapy; in differentiating between schizophrenic and alcoholic psychoses; in suggesting the degree of plasticity and integration of the personality; and in promoting more coordinate activity.

Although untoward reactions to this drug sometimes occur, in general this method is easier to carry out and appears to be less dangerous than the other pharmacotherapeutic methods used in this disease.

Long observation of a large series of cases will be necessary to confirm these preliminary impressions, but it now appears that, in such of these patients as can be stimulated to some degree of improvement, Benzedrine Sulfate may initiate, accelerate, and augment such improvement, and this drug, therefore, merits further study in these cases. —E. C. REIFENSTEIN, M.D., in *Psychiat. Quart.*, Jan., 1939.

Sulfanilamide in Gonorrhea*

An analysis of 2,727 cases of gonorrheal urethritis treated by sulfanilamide shows "cures" in 1,848 cases (68 percent). Local treatment was employed in 669 cases with 388 "cures" (58 percent).

These statistics do not indicate that very large doses of sulfanilamide give better results than the moderate ones, nor are the statistics entirely conclusive as to whether the use of local treatment is a valuable addition to the therapy.

The figures are sufficient to prove that sulfanilamide is an extremely valuable addition to the therapy of gonorrhea. Certainly the rarity of extension to the posterior urethra and involvement of the prostate, seminal vesicles, and particularly the epididymides, is a striking feature in the collected reports.

It seems probable that the use of a mild antiseptic, injected in small amount to the anterior urethra, is valuable in cases of acute anterior gonorrheal urethritis. When the posterior urethra has become involved, such treatment apparently is of no value.

It is the consensus that while a large percentage of the cases become gonococcus-free in a short time, there are others in which gonococci persist even after the disappearance of urethral discharge and the apparent cure of the patient. These extraordinary facts make it necessary to withhold judgment as to when a patient is cured until sufficient time has elapsed to be sure that the discharge will not recur and that gonococci are not present in deep-seated structures. Stringent tests of cures are urged, in order to prevent gonococcus carriers and reduce chances of thus spreading the disease. It is certain, however, that the persistence of gonorrheal infection over long periods—months or years—is far less common in patients treated with sulfanilamide.

JOHN E. DEES, M.D.
HUGH H. YOUNG, M.D.

Baltimore, Md.

**Ven. Dis. Inf.*, Feb., 1939.

Treatment of Finger-Tip Injuries*

A MAN'S hands are one of his most valuable assets. Amputated fingers or painful finger-end scars manifest themselves in the pay envelope.

Loss of soft tissues of the finger, due to injury, may be promptly remedied by this minor operation:

A small, full-thickness skin graft is applied at once, using as a donor site the volar aspect of the proximal fourth of the same forearm, or the lateral aspect of the thigh near the ilium. *The operation may be carried out in home or office.*

The donor site is shaved and scrubbed thoroughly clean, but no antiseptics are used because of the possibility that they might cause injury to the graft. Novocain (procaine) solution is injected into the proximal segment of the finger on each side. A horse-shoe shaped area is injected with Novocain at the donor site.

By this time, the finger is anesthetized. Loose tags of skin are trimmed and the finger thoroughly scrubbed. No hemostasis is used except pressure.

A simple pattern of the skin defect may be obtained by pressing a piece of sterile gauze over the finger tip. The blood and serum soak into the gauze, which is then pressed down on the donor site. The transfer of moisture and blood stain outlines the size and shape of the graft, which is outlined with a sharp scalpel. Near the margin of the graft care must be taken to separate the skin from the subcutaneous tissue *accurately*. This is not so important near the center of the graft, because a fat pad is often needed to replace tissue. The graft should be removed rapidly and handled as little as possible. It is sutured in place with very small, cutting-edge needles and fine silk ("A"). Interrupted sutures are used and the graft should be under slight tension. Dry gauze is placed over the finger end and held in place with a moderately tight bandage. The donor site is closed in a straight line by undermining the margins.

**S. G. & O.*, May, 1939.

The patient is advised to keep the hand dependent a part of the time. The dressings are not changed for 5 days, and the sutures not removed for 2 weeks. Usually at the end of 5 days, the graft is pink and dry. No dressings are necessary after 4 weeks.

JEWETT V. REED, M.D.

Indianapolis, Ind.

Appendicitis with High Fever

THERE is one type of acute appendicitis which is not common and has an unusual chain of symptoms. In acute infection of a retroperitoneal appendix, the first symptom is general discomfort over the abdomen, little or no crampy pains, and slight nausea. A few hours later, a chill appears and is followed by a very high fever. Slight tenderness and much pain are noted in the *lumbar region of the back*. The patient appears to be extremely ill, and has a rapid pulse. The temperature varies from 103° to 107° F. and the patient has all the symptoms of cellulitis, with recurring chills and fever, followed by sweating. Immediate appendectomy will usually cure such patient.—C. N. CARRAWAY, M.D., in *Med. Times*, April, 1939.

[This type of case is usually misdiagnosed as "indigestion," pyelitis, typhoid, colitis, or septicemia. These cases are especially confusing if seen after a lapse of some days, because the patient has usually forgotten all about the abdominal discomfort and the physician searches for the cause of the chills and fever among such diseases as undulant fever, typhoid fever, perirenal abscess, and neoplasm. One such case, personally seen, had gone for a month without the diagnosis being made. Operation revealed a retroperitoneal abscess.—R. L. G.]

Organotherapy*

ORGANOTHERAPY may be employed in these ways: (1) As *substitution therapy*, to replace the absent or deficient secretion of a gland that is involved in a destructive lesion or where there is relative insufficiency owing to overaction of some antagonistic gland. Thyroid extract and insulin are good examples; (2) as *pharmacologic agents*, for a physiologic effect aside from the glandular action, as Adrenalin (epinephrin) is used in the treatment of asthma or Pituitrin in labor; (3) as an *antagonist to another hormone:* Here we can mention insulin in the treatment of *hyperthyroidism;* Pitressin and Adrenalin as antagonists to insulin (a good point to remember when a patient has taken an overdose of insulin or has not eaten); estrin in an attempt to neutralize an overacting pituitary and for the relief of *acromegaly;* testosterone for *menorrhagia* (because it leads to atrophy of the endometrium and suppresses ovulation); and testosterone for neutralizing the thyrotropic hormone in *hyperthyroidism;* (4) as a *stimulant to general metabolism*, for thyroid extract quickens general metabolism, even in the absence of hypothyroidism; insulin is often helpful in anorexia nervosa and other wasting diseases (if adequately covered with dextrose); and estrin may increase sugar tolerance in severe insulin-resistant *diabetics;* and (5) as an attempt to utilize antihormonal activity: In this connection, *it seems best to give the growth hormone periodically*, with intervals of rest, in order to avoid antihormonal development.

Empirical uses: Pitressin relieves the pain of herpes zoster and its neuralgic sequels; parathormone relieves intestinal colic; atrophic rhinitis may be relieved by estrin; and testosterone is useful in the treatment of many male disorders.

SIR WALTER LANGDON-BROWN, M.D.

London, England.

*Brit. M. J., Nov. 15, 1938.

Infections of the Extremities

EARLY operation kills in streptococcal infections; delayed operation may be fatal in staphylococcal infections. Marked local serous edema is often mistaken for suppuration. Ill-timed incisions and manipulations, in such cases, often lead to a fatal blood stream infection. For anthrax, also, the old, aggressive local treatment, with scalpel, cautery, and injections of antiseptics, had a mortality of 40 percent. With complete rest, local protection, and immobilization, the mortality rate is 5 percent.

A staphylococcic osteomyelitis may be aborted early by drilling the overlying skin and bone with an ordinary drill, as suggested by John B. Murphy. —W. WAYNE BABCOCK, M.D., in *Am. J. Surg.*, April, 1939.

Urinary Tract Infections*

THERE are four general problems in the treatment of urinary infections: (1) Regulation of urinary volume; (2) regulation of the urinary *p*H; (3) the effect of antiseptics on the human host; and (4) the effect of antiseptics on bacteria.

Urinary volume may be increased by the administration of 5 or 6 liters of water daily, or decreased to obtain a more concentrated solution of an antiseptic which is being used. Fluid may be limited to 1 or 1.5 liters daily.

Urinary pH: Sodium citrate or potassium citrate or acetate may be used to make the urine alkaline. Sodium acid phosphate is not so effective for acidification as was formerly thought. Hydrochloric acid or the reliable ammonium salts may be used for acidification. A vegetable-fruit diet tends to alkalinize the urine, and a high-protein, high-carbohydrate diet tends to acidify the urine, but neither is as effective, alone, as drugs. The use of alternate acidification and alkalinization, in an attempt to eliminate infection, is only occasionally successful.

Urinary antiseptics: Methenamine is fairly effective in an acid medium, but does not act against deep-seated infections. *Sulfanilamide* is not only excreted in the urine, but it also permeates all the tissues of the body, so that it has the advantage of affecting organs associated with the urinary tract, such as the prostate and seminal vesicles, which are not drained or flushed by the urine. It is effective in either acid or alkaline urine, but possibly a little more effective in an alkaline medium.

Mandelic acid should usually be given with am-

*J. A. M. A., April 22, 1939.

monium chloride, as it is effective only in acid urine of *p*H 5.5 or below. The urine should be very concentrated. About 12 Gm. should be administered in a twenty-four hour period in order to secure sufficient concentration.

Neoarsphenamine: This drug is very potent in some instances of coccic infection. A pure staphylococcic infection of the urinary tract, which is not very common and which resists all other forms of treatment, often reacts quickly and favorably to this drug, given intravenously.

WALTER MODELL, M.D.
ALEXANDER R. STEVENS, M.D.
New York City.

Removing the Normal Appendix

THE mortality rate of appendiceal peritonitis is increasing, despite its comparatively ready diagnosis and standardized treatment. Of every 20 children who die, one dies of acute appendicitis.

The articles written by surgeons, advocating the deferred or delayed treatment of appendicitis, have done incalculable damage. The appendix is a lighted bomb that must be removed at once.

We are now beginning to take seriously a suggestion that was ridiculed a few years ago; namely, *the removal of the normal appendix in children.* The non-inflamed, non-adherent appendix is removed so readily that the procedure can hardly be classified as a major operation. This fact is verified every time an appendectomy is done incidentally, in the course of other abdominal surgery. The child may be out of bed in a few days, the surgical and hospital expense is low, and the parents never need be confronted with the grim spectre of appendicitis.

Any person who intends to travel to an inaccessible or poorly populated region will find that the best life insurance is an appendectomy, lest he be caught without any possibility of help. Witness the newspaper accounts of appendectomies done under adverse conditions and after long trips.—Editorial in *J. A. M. A.*, May 20, 1939.

Clinical Manifestations of Gout*

PRIOR to an acute attack of gout, the patient feels out of sorts for a few weeks; he is irritable and difficult to get along with. His appetite is particularly good and, toward the onset of the attack, it becomes almost ravenous. There is an insatiable desire for meats. He begins to complain of numbness in the muscles and a sensation of heat in the joints.

The attack comes on in the night, as a rule. It is usually polyarticular, but may be monarticular. There is sudden, severe pain in the joints, which causes the patient to cry out. The weight of the bedclothes is unendurable; there may be chills, fever, and tachycardia. The joints are red and swollen, and the patient begins to perspire profusely.

The next day the patient appears apprehensive and gives the impression of great suffering. His appetite is poor. The periarticular tissues are swollen and tender; the blood count shows a moderate leukocytosis; the urine is concentrated and scant, and the blood-uric-acid frequently increased. In some cases, the condition may be confined to one or two joints, while in others it is migratory, but not evanescent.

Treatment: Colchicine is as effective as and less toxic than cincophen. It should be prescribed in doses of 1/60 grain (1 mg.) three times daily. A purine-free diet, hot applications of saturated magnesium sulphate solution, and rest in bed are other measures of value.

After the attack subsides, the patient is put on a purine-low diet and given colchicine, 1/120 grain (0.5 mg.) three times daily, after meals, for one week out of each 4. *This is a permanent regime.* A definite routine of treatment will enable the patient to avoid attacks over a period of years. If there is an idiosyncrasy to colchicine, cincophen may be used.

A. COHEN, M.D.
Philadelphia, Pa.

The Rectal Examination*

INSPECTION of the perineum will show the condition of the perianal skin and any lesions on the perineal region. This should include the examination of the sacrococcygeal region for pilonidal sinuses and the perineum for external hemorrhoids, either as skin tags or acute thrombotic hemorrhoids. The openings of fistulae are noted and, with a slight separation of the anal canal, anal fissure or ulcers are found. The tender areas over abscesses and the induration of fistulous tracts are palpable externally.

The well lubricated, gloved finger is then introduced into the anal canal. The direction of the canal is such that the finger enters most easily if directed toward the umbilicus. The sphincter tone can be noted and the anal canal palpated. It should be remembered that most of the common rectal lesions are located in the anal canal or lower rectum and that this region is best palpated by introducing the finger no further than the second joint. Hemorrhoids in this area, unless they have undergone some complication, are soft and compressible and are *not palpable.* They can never be demonstrated by the sense of touch and must be seen with the anoscope or proctoscope to be diagnosed.

When the finger is inserted further, the surrounding structures can be palpated. The coccyx, the inner surface of the lower sacrum, and the prostate and seminal vesicles, in the male, and the uterus and adnexa in the female, all can be easily palpated and their condition noted. It is in this region that the submucous abscesses, as well as the various supralevator abscesses can be found. Inside the lumen the normal valves of the rectum and folds in the mucosa can be made out.

On this surface are found the tumors of the rectal mucosa. The most important of these is the adenocarcinoma of the rectum. This occurs primarily as a lesion of the mucosa and in early cases is felt as a hard, irregular nodule that may be movable over the underlying muscular wall. After

*Penn. M. J., Sept., 1938.

*Radiol. Rev. & M. V. M. J., Nov., 1938.

a time this mass ulcerates and a crater forms. By means of either invasion of the muscle layer or, more rarely, by inflammatory reaction, the mass is fixed to the rectal wall and is movable with it. Later, after the surrounding structures are invaded, the mass and the underlying portion of the rectal wall are all fixed. After ulceration occurs, the margin of the lesion is irregular and very hard, and bleeds easily.

To anyone familiar with the feel of a cancer of the cervix on vaginal examination, the recognition of the rectal cancer is not at all difficult. It has the same stony hardness, the same irregularity, and bleeds just as easily as does the lesion of the cervix. Palpation should include the degree of fixation and extent around the lumen, in order to estimate the possible prognosis. Usually the lesion that has become fixed to surrounding structures is no longer operable. One that has penetrated the muscle wall so as to reach the extrarectal lymphatics has a poor prognosis, even though it is possible to remove it surgically. Benign tumors are less frequent than cancer, and if there is any doubt it is best to consider the lesion as malignant until proved innocent by biopsy and the clinical course. While the rectum has no sensitive pain-nerve supply, it is surprising how frequently a cancer of the rectum is tender to the touch.

THEO. F. REUTHER, M.D., M.S.
Chicago, Ill.

Inhibition of Lactation by Testosterone Propionate*

THE inhibition of lactation during the puerperium is almost always a painful process. Only an occasional patient goes through this "drying up" process without any discomfort. The largest number complain of soreness, heaviness, lumpiness, and pain in the breasts. This often necessitates the continuous use of sedatives. A rise in temperature, malaise, and general discomfort are not uncommon. These symptoms last from 3 to 7 days. The usual treatment instituted to dry up the breasts is limitation of fluids (500 cc. or less in 24 hours); a tight breast binder; continuous ice caps to the breasts; saline cathartics; and sedatives.

Twenty-one (21) successive patients were chosen for this test, including both private and ward cases. In each it was decided to terminate lactation for one reason or another. Each patient was given intramuscular (deep gluteal) injections of testosterone propionate, the total dose ranging from 50 to 150 mg. Two doses were given each day for one or more days. No other additional therapy was instituted. The effectiveness of the treatment was judged by the reaction of the patients, the amount of nursing care, and the close observation of the resident staff.

Of the 21 cases so treated, only 2 may be considered as being unsuccessful. The remaining 19 cases showed excellent results. It was not unusual to find that, where doses of 25 mg. were given, complete relief of all symptoms was obtained within a few hours after the second dose. This is very striking when one considers the fact that the second dose usually followed the first by about 8 hours. In general, 40 mg. or more of testosterone propionate were required to relieve all symptoms of breast engorgement. Complete relief of symptoms usually occurs within 48 hours. The best results were obtained by doses of 25 mg. each. Once the symptoms were relieved, there was no tendency for their recurrence after the injections were stopped.

RAPHAEL KURZROK, M.D.
CLINTON P. O'CONNELL, M.D.
New York City.

*Endocrinology, Oct., 1938, p. 476.

Cyanosis*

CYANOSIS occurs rapidly in acute laryngeal and tracheal obstructive conditions (diphtheria, edema of the glottis, foreign body). The first deep-blue color of the lips gradually changes to a dirty-grey, lavender color.

Chronic obstruction of the larynx results in a deep-blue color of the mucous membranes. It is surprising how long an individual may exist with a comparatively small respiratory opening, provided its narrowing has developed over a long period of time.

Bronchitis may give rise to cyanosis, in infants or elderly people. Thick secretion should be removed by gravity (postural drainage) or aspiration, and oxygen should be introduced through a catheter or tent.

Pneumonia: The recognition of early cyanosis is very important, because (1) it affords an important index to the functional respiratory disability, and (2) as pneumonia is an acute disease, anoxemia is a serious complicating factor in an already important toxemia.

In lobar pneumonia, cyanosis may be present early, because the circulation through the affected lobe is not interfered with, but oxygenation is inadequate. Thus, a deep-colored cyanosis may be present during the first 24 to 36 hours. Later, respirations become faster but more shallow. If respirations are becoming more rapid progressively and have consistently passed 40 to the minute, and even slight cyanosis be present, *continuous* use of oxygen is strongly indicated. Intermittent oxygen therapy is of little value.

Bronchopneumonia: There are only two acute conditions which produce an intensely deep blue cyanosis: bronchopneumonia and acute pulmonary edema. In children, the process may be merely a swelling of the bronchiolar mucous membranes, which may rapidly disappear if the child be tided over the first few hours when suffocation is imminent ("suffocative catarrh").

Acute pulmonary edema is an indication for the use of oxygen, as well as therapy for the heart or blood volume. Acute massive pulmonary collapse should be treated with oxygen-carbon dioxide. Acute pneumothorax and acute pleurisy with effusion may be relieved by withdrawal of air or fluid.

Chronic pulmonary diseases: Bronchial asthma, carcinoma of a bronchus, and emphysema may cause cyanosis. Emphysema and congenital heart disease produce the most intense cyanosis.

Mitral heart disease is characterized by a deep-reddish color of the cheeks, ears, and lips.

Alkalosis, narcotic poisoning, and *electric shock* may produce cyanosis, and are best treated by inhalations of 90 percent oxygen and 10 percent car-

*Meakins' "Practice of Medicine" (C. V. Mosby & Co.)

bon dioxide, with artificial respiration. The hyperpnea of acidosis is easily recognized, but the slow, shallow respirations of alkalosis may be overlooked.

J. C. MEAKINS, M.D.

Montreal, Can.

Treatment of Bulbar Poliomyelitis*

A PROMINENT feature in bulbar poliomyelitis is inability to swallow because of paralysis of the muscles of deglutition. As a result of this paralysis, there is a constant stasis of mucous secretion in the pharynx. The patient may thus drown in his own secretions or aspiration pneumonia may follow.

A No. 10 to 16 French catheter is used, the diameter depending upon the size of the patient's nasal passage. From 12 to 15 holes are burned into the distal half-inch of the catheter with a hot needle. The catheter is inserted into the nose and, with the tongue depressed, adjusted so that the tip can be seen lying at the base of the tongue; then it is fixed in place with adhesive strips.

With the foot of the bed elevated and the patient lying upon his back, suction now will drain the most dependent region of the pharynx. The perforations in the catheter are limited to the distal half-inch so that no suction is wasted above the pharynx. When the openings are made on *all sides* of the catheter tip, it becomes impossible for them all to be closed by mucous membrane. The catheter is then connected to a portable water-suction apparatus attached to a faucet. It is important that a trap (a corked bottle with two inlets) be inserted in the line leading from the catheter to the faucet, as it eliminates the danger of backflow.

The patient is no longer restless when the suction is begun. He can drink small amounts of water to cut the thick mucous secretion, and sleeps easily.

O. W. ANDERSON, M.D.

Seattle, Wash.

Postural Treatment of Laryngotracheobronchitis

WITH tragic abruptness, a child with an apparently ordinary infection of the upper respiratory tract and moderate difficulty in breathing may choke up suddenly, fight desperately for air for a short time, and die. At autopsy, the appearances of acute tracheobronchitis are found. The tracheal and bronchial mucosa are reddened and thickened, and the bronchi are filled with thick secretions or crusts, although *there may have been few physical signs.*

No opiates or atropine should be given. The foot of the bed should be elevated 15 degrees or more (as much as the patient will tolerate). Fluids should be given by mouth and parenterally to increase fluidity of secretion. Tracheotomy or intubation should be carried out, if the inhalation of moisture-saturated air in a croup tent, and oxygen, do not give relief. Irrigation with 5-percent sodium bicarbonate solution may be carried out through the tracheotomy tube and the solution aspirated with a catheter.—T. C. GALLOWAY, M.D., in *J. A. M. A.*, April 22, 1939.

*J. A. M. A., June 25, 1938.

Treatment of Painful Shoulders

AS the shoulder joint, once injured, easily becomes stiff, early treatment is essential. *The use of liniments and a sling after a simple shoulder sprain or rheumatism have often led to permanent stiffness.*

The most important treatment is the prevention of contracture, which may result from even a simple shoulder injury. The best method, even though the patient may not like it, is to put the arm immediately in an abduction splint, which will relieve muscle stretching and prevent pain and contractures.

Exercise is also necessary, as are moist, warm poultices of Antiphlogistine. The injection of 1- or 2-percent procaine solution is of value in the treatment of muscular contraction or joint stiffness. Infiltration is especially necessary in the spaces between the deltoid, pectoralis, and subscapularis muscles.

Acute subdeltoid bursitis may be treated thus: The area of greatest tenderness is determined by gentle pressure with applicators. Several cubic centimeters of procaine solution are injected slowly, and then aspirated. The material withdrawn may be of chalky or brownish appearance. The procedure is repeated until the patient is relieved of all pain, when he is dismissed without a splint and is encouraged to use the shoulder joint in all directions.

Histamine ointment (Imadyl, Roche) has proved definitely analgesic. Short-wave diathermy and x-ray treatments may be necessary for deltoid bursitis.—E. BETTMANN, M.D., in *Am. J. Surg.*, Nov., 1938.

Dextrose in Bronchopneumonia in Infants*

IN nurslings, the fatality rate of bronchopneumonia is 50 percent. There are several forms of the disease: the pulmonary, the cardiac or circulatory, the nervous, the gastrointestinal, and the toxic infectious, depending upon which system is the most affected.

Dextrose solution, 15 percent, in amounts of 150 to 200 cc., with 0.5 cc. of a 1:1,000 solution of epinephrine, is injected into the peritoneal cavity. A needle 5 to 7 cm. in length is used, and the left iliac fossa is the usual site. The injection is made daily. As a result, the mortality has decreased from 30 to 35 percent.

The arterial tension increases after the second or third injection; the pallor and cyanosis change to an almost normal color; the dyspnea diminishes; diuresis increases; loss of weight is arrested; and anorexia disappears.

In the cardiac form, there is a decrease in the cardiac dilatation. In the nervous form, lumbar puncture is also necessary to counteract the nervous phenomena. In the gastro-intestinal form, sugared water, in a quantity of 600 cc. (20 percent maltose and dextrose), produced excellent results.—G. PAISSEAU, M.D., in *Arch. de Med. des Enfants* (France), March, 1939.

Diagnostic Pointers

★

The Vaginal Examination

● In a patient who is not obese and who is not holding the abdominal muscles rigid, the uterus should be clearly defined between the two hands in a bimanual examination. If it cannot be felt, have the patient urinate and elevate the hips so that coils of intestine will gravitate cephalad from the pelvis.

Do not "poke" the abdomen repeatedly, if the uterus or adnexa cannot be felt at once. Start with the abdominal hand *high up* on the abdomen (level with the anterior superior iliac spines), and *gently* depress it with each respiratory relaxation, until it is almost touching the forward sacral curvature; then gently move it downward and imprison the pelvic contents between the fingers of the two hands.—H. S. Crossen, M.D., and R. J. Crossen, M.D., in "Diseases of Women" (C. V. Mosby Co., St. Louis).

Cosmetic Dermatitis

● Cosmetic dermatitis usually appears abruptly and is characterized by erythema, edema, papules, vesicles, exudation, crusts, and finally by desquamation. It is usually accompanied by pruritus. It tends to form patches with indefinite borders.—*Med. World*, April 7, 1939.

Heart Disease and Pregnancy

● The conclusion that most "heart disease" is imaginary, reached by Richard Cabot some thirteen years ago, seems soundly based. It must not be forgotten, in the case of the pregnant woman, that there is normally some shortness of breath and palpitation, and that edema of the ankles is liable to develop during the later months. A feeling of faintness or even actual syncope is not uncommon. The physician may be led astray by finding that her pulse is irregular, or that the heart sounds are not pure and clear.—Crighton Bramwell, M.D., in "Heart Disease and Pregnancy" (Oxford Medical Publications).

Flatulence

● The most common symptom of gallbladder disease is flatulence, and in many cases it is the only symptom. The feeling of distension comes on immediately after a meal, especially a heavy one or one containing fat. The patient may seek relief by the regurgitation of gas or belching, and by loosening the clothing. The regurgitated air is almost odorless and tasteless, and is, in fact, *air* which has been swallowed (aerophagy). This symptom is persistent and is not readily controlled by diet or alkalies. *Air is regurgitated at once after eating, whereas fermentation takes hours and the gas is foul-smelling.*—T. A. Kean, M.D., in *Med. World*, April 7, 1939.

Malnutrition in Chronic Appendicitis

● Asymptomatic chronic appendicitis is a rather common cause of ill health, usually associated with malnutrition in children, and cannot be diagnosed accurately from the history, physical signs, and usual laboratory aids. The most important roentgenologic confirmatory signs are tenderness over the filled appendix, when palpated under the fluoroscope; prolonged retention of barium in the appendix; and fixed position of the appendix on subsequent films.—L. D. Hill, Jr., M.D., in *South. M. J.*, April, 1939.

Diagnosis of Tuberculosis

● It is not uncommon for a patient to present symptoms, physical signs, and a roentgenogram suggestive of pulmonary tuberculosis, yet whose sputum and feces are repeatedly negative for tubercle bacilli on examination. Bronchoscopic examination, swabbing of the bronchus, and examination of the swab and drained material for tubercle bacilli has confirmed the diagnosis in half of such cases.—H. V. Morlock, M.D., in *Brit. M. J.*, Feb. 25, 1939.

Kidney-Shaped Ulcers in Syphilis

● When the fates invented syphilis, they gave the medical profession a break by giving the tertiary lesion a kidney shape, no matter where located. In no region is this providential fore-thought of greater value than in specific lesions within the mouth. Most ulcers are located in the fauces and on the tongue. In the latter location the pathognomonic shape of the lesion is commonly encountered.—A. E. Hertzler, M.D., in "Surgical Pathology of the Mouth and Jaws" (J. B. Lippincott Co.).

Resistance of Wounds to Infection

● An experimental wound, made under aseptic precautions, is easily infected. With the passage of time, the ease of infection decreases until the sixth day, after which infection is practically impossible. This resistance is due to the development of a defensive layer of granulation tissue. These facts teach us that, once we have thoroughly cleansed and dressed an accidental wound, we had best leave the dressing unchanged for as long a time as possible, up to at least six days.—W. D. Gatch, M.D., in *South. Surg.*, Dec., 1938.

Blood Pressure and Weight

● Alvarez, in studying young university students, found that individuals who were more than ten percent underweight had an average blood pressure 10 mm. below those of normal weight, while those ten percent or more above the normal weight had blood pressures 13 mm. higher than normal.—F. M. Findlay, M.D., in *West. J. Surg., Obst. & Gynec.*, Nov., 1938.

Thumbnail Therapeutics

Testosterone Propionate in Uterine Bleeding

• Menstrual function can be inhibited in human beings by the administration of androgen, such as testosterone propionate, and a beneficial action on excessive and uncontrolled uterine bleeding is obtained. This cessation of bleeding is associated with the development of an atrophic endometrium. It is still uncertain whether the male hormone acts directly upon the ovaries or indirectly through other endocrine glands.—H. S. RIPLEY, M.D., in *Endocrinol.*, March, 1939.

Threatened Abortion

• By careful studies of the uterine muscle with a metreurynter and kymograph, it was demonstrated that morphine *increased* or stimulated uterine contractions, instead of stopping them, even when the general effect of the sedative action of the drug could be clearly detected. The injection of progestin, one or two units daily, definitely caused a cessation of uterine contractions.—F. H. FALLS, M.D., in *South. M. J.*, May, 1938.

Liver Insufficiency

• Liver disease may follow biliary obstruction, infectious diseases, specific hepatotoxic agents (chloroform, phosphorus), and hyperthyroidism.

The treatment of liver insufficiency consists of: (1) the introduction of large amounts of carbohydrates by mouth, or dextrose solution intravenously; (2) the introduction of sufficient amounts of fluid to prevent hemoconcentration; and (3) the use of blood transfusions, acacia solution, liver extract, vitamin B complex parenterally, and other measures to increase the blood viscosity and prevent ascites. The hemorrhage in liver disease may be treated effectively by introducing 2 cc. of vitamin K extract and 250 cc. of bile through a duodenal tube or by mouth.—A. M. SNELL, M.D., in *Ann. Int. Med.*, Nov., 1938.

Treatment of Breast Carcinoma

• We irradiate the ovaries in all cases of inoperable and metastatic mammary carcinoma, when the patient has not passed the menopause. Dresser has proved the regression that occurs in the metastases when ovarian irradiation is carried out. The evidence strongly suggests the advisability of radiation castration, even in the presence of operable mammary carcinoma, but one hesitates to advise this procedure in all cases until further study supports the present evidence.—MAX CUTLER, M.D., and F. BUSCHKE, M.D., in "Cancer, Its Diagnosis and Treatment" (Saunders, 1938).

The Treatment of Dyspepsia

• In many cases, the symptoms of dyspepsia are due to disease elsewhere. Two questions should be asked of every dyspeptic: (1) the amount of time taken at meals; and (2) the quantity eaten at each meal.

Many cases of dyspepsia are due to hasty and imperfect mastication, often because of poor or missing teeth. If the patient will eat slowly, the dyspepsia will often be cured.

People habitually eat too much, and it is probably true that a greater number of maladies arise from excess in eating than from excess in drinking.—SIR WILLIAM OSLER, M.D., in "Principles and Practice of Medicine" (Appleton-Century, 1938).

Lactic Acid in Serum Reactions and Urticaria

• This prescription will favorably influence ailments following the use of serum, and also urticaria:

℞

Lactic Acid	15
Syrup of Raspberry	250

Sig.: One tablespoonful in a glass of water; two such doses to be taken at once.—*Med. World*, Dec. 16, 1938.

Hypervitamin Therapy

• The patient undergoing pre- and post-operative treatment should receive large amounts of vitamins and minerals. These are the suggested daily dosages:

Vitamin A—30,000 U.S.P. units
Vitamin D— 2,000 U.S.P. units
Vitamin B_1— 1,500 International units
Vitamin C— 500 International units
Vitamin G complex—100 gamma equivalent of riboflavin (liver extract)
Vitamin E—trace
Ferrous iron—60 mg.
Dicalcium phosphate—50 mg.

The medical patient also often needs to be "built up" in this way.—MARTIN G. VORHAUS, M.D., in *Am. J. Surg.*, Nov., 1938.

Treatment of Non-Healing Wounds

• It is not often realized that slight edema may prevent wound healing. The legs, even of healthy people who remain for some time in the standing posture, show slight edema, because of the hydrostatic pressure of blood in the leg veins. A pressure bandage applied to the leg will often permit the healing of ulcers or small wounds.—W. D. GATCH, M.D., in *South. Surg.*, Dec., 1938.

Diagnostic Pointers

Tuberculosis Following Influenza

• It is too often supposed that tuberculosis has developed in consequence of an attack of influenza. The supposed symptoms of influenza are not, in these cases, due to influenza, but are indicative of the beginning of a tuberculous infection. Examination with the x-rays and examination of the sputum should be made.

The course of influenza complicating tuberculosis is generally favorable, but the more severe the influenza is, and the more widespread and advanced the tuberculosis, the more trying is the subsequent course.—*Med. World,* April 7, 1939.

Fever in Peptic Ulcer

• Patients with peptic ulcers have fever more frequently than patients with no demonstrable organic lesion, and bleeding increases this tendency.—L. V. Dill, M.D., in *Am. J. Dig. Dis.,* Feb., 1939.

Benign Giant-Cell Tumors

• The favorite location of giant cell tumors is in the epiphysis of the long bones. This is an important differential diagnostic sign from osteogenic sarcoma, which as a rule is situated in the metaphysis. Bloodgood calls attention to the fact that a favorite site of giant-cell tumors is in the epiphysis of the radius, which is hardly ever the site of osteogenic sarcoma.—M. Cutler, M.D., and F. Buschke, M.D., in "Cancer, Its Diagnosis and Treatment" (W. B. Saunders, 1938).

Bone Tuberculosis and Trauma

• Bohler states that, out of 80,000 accidents, in no single instance did tuberculosis of bone or joint follow the injury. At the same time it must be remembered that a latent tuberculous deposit in a bone may become manifest through a trauma.—*Med. World,* Dec. 30, 1938.

Tonsillectomy

• The decision as to the removal of tonsils is a difficult one, at times. If there is chronic tonsillar infection with local symptoms, recurring acute attacks, or injury to the ears, it is wise to advise removal.

The surface condition is no guide as to the presence or absence of infection in the deeper parts of the tonsil.

Adenoid growths should be thoroughly removed. Throughout the entire treatment, attention should be paid to the hygiene and diet, and cod-liver oil and iron iodide administered.—Sir William Osler, M.D., in *"Principles and Practice of Medicine"* (Appleton-Century, 1938).

The Diagnosis of Nephritis

• The general practitioner may readily make a diagnosis of chronic nephritis. The most constant single finding is a *low specific gravity,* which does not rise above 1.015 or fall below 1.005. An extremely low level (below 1.005) is usually found in diabetes insipidus. If, in addition to the fixed low specific gravity, albumin is found, even in small amounts, the diagnosis of chronic nephritis can be made. A few casts may be found if the urine has been centrifuged.—H. A. Christian, M.D., in *Penn. M. J.,* April, 1939.

Mineral Oil and Pruritus Ani

• The use of mineral oil is often an indirect cause of pruritus ani. The definite leakage from the anus, in those patients who take oil, interferes with proper anal hygiene. The delicate perianal skin (nowhere on the body surface is the skin so vulnerable) needs to be kept clean and dry. Pruritus will often persist, in spite of adequate treatment, if the patient continues to take mineral oil.—J. W. Morgan, M.D., in *Am. J. Surg.,* Nov., 1938.

"Chronic Appendicitis"

• Those patients who have never had an attack of appendicitis or appendiceal colic should not have their appendices removed, unless incidentally in the course of another abdominal operation. Only 18, in a series of 78 patients who were operated upon for "chronic appendicitis," were cured, the other sixty patients presenting themselves again for the same complaint after the appendix had been removed.—M. Kraemer, M.D., in *Am. J. Surg.,* Nov., 1938.

• "Sutures are used to approximate and not to strangulate."—A. J. Ochsner, M.D.

Shock Following Injury to an Extremity

• It is a good rule, where hemorrhage is not a factor, to consider every case of prolonged or secondary shock, after trauma of an extremity, as due to gas gangrene, until the possibility of this infection has been excluded.—W. Wayne Babcock, M.D., in *Am. J. Surg.,* April, 1939.

Thumbnail Therapeutics

★

Suturing Wounds

• All forms of suture material are harmful to the tissues and at best a necessary evil. The use of non-absorbable material is contraindicated in the presence of infection or of considerable danger of infection. If abdominal incisions, especially when there is danger that they become infected, are sutured *loosely*, with interrupted stitches, care being taken not to close the skin tightly, it is amazing to observe how seldom they become seriously infected.—W. D. GATCH, M.D., in *South. Surg.*, Dec., 1938.

Bleeding Following Rectal Operations Caused by Mineral Oil

• Mineral oil should never be given before or after operations on the rectum. Within the past month, I have been called in consultation in two cases of postoperative hemorrhage following hemorrhoidectomy. Both patients had had several transfusions, and both had had mineral oil twice daily. The discontinuance of the oil and repeated physiologic saline flushings, along with tannic acid instillations and more transfusions, ended the hemorrhages, but did not prevent the appearance of partial strictures.—J. W. MORGAN, M.D., in *Am. J. Surg.*, Nov., 1938.

Treatment of Menorrhagia

• Nutritional disturbances, anemia, and blood dyscrasias frequently account for severe functional bleeding and call for the usual therapeutic procedures. A thorough pelvic examination is indicated to rule out the possibilities of uterine fibroids, carcinoma of the cervix, and pelvic inflammations.

Endocrine menorrhagia may be treated by injections of Proluton, one rabbit unit, given two or three times a week for the first two weeks of the period. Mammary extract has proved successful in treating the menorrhagia of older patients, three ampules usually being found sufficient to stop functional bleeding.—M. K. HERTZ, M.D., in *Med. Rec.*, Nov. 16, 1938.

Treatment of Amnesia

• The intravenous administration of Sodium Amytal restored the memory of six persons with hysterical (psychogenic) amnesia within a few minutes, after other methods, including hypnosis, had been tried and failed. This drug is a cortical depressant, which diminishes the normal inhibitory action of the cortical cells.—M. HERMAN, M.D., in *Psychiatric Quart.*, Oct., 1938.

Treatment of Crushed Extremities

• Many apparently hopelessly crushed limbs recover in quite an amazing way, if secondary skin tension is prevented by immediate long volar and dorsal incisions through the skin. Instead of closing the badly contused wound with sutures, it is better to lay it widely open. A common mistake was to suture meticulously the various divided structures, whereby the limited remaining vitality, as well as the resistance to infection, was lost through the manipulation, or strangled by the secondary swelling and tension of the skin. By delay, and with the part living and revitalized, the suture of divided nerves, tendons, and the like may be done with relative safety.—W. WAYNE BABCOCK, M.D., in *Am. J. Surg.*, April, 1939.

Vitamin K in Hemorrhagic Jaundice

• The administration of a fat-soluble vitamin (vitamin K) and bile salts will increase the concentration of prothrombin and thereby reduce the clotting time of the blood in cases of jaundice.—A. M. SNELL, M.D., in *Am. J. Dig. Dis.*, Nov., 1938.

Autohemotherapy in Hypertension

• In autohemotherapy an elbow vein is punctured and 25 cc. of blood is withdrawn and immediately injected into the subcutaneous tissues on the outer side of the thigh. The injection is repeated once or twice a week until five or six are given. A rapid lowering of the arterial pressure results, which persists for a long time. The effect is assumed to depend upon the histamine production in the cellular tissue at the point of injection. The histamine in the blood stream produces vascular dilatation and subsequent lowering of the blood pressure.—*Med. World*, Dec. 16, 1939.

Urinary Infections in Children

• Sulfanilamide is the first drug of choice in the treatment of urinary infections in children, mandelic acid being reserved for those cases which show toxic reactions to sulfanilamide or in which the latter drug is ineffective.

One handicap in other methods of treatment has been the inability of small children to take medication by mouth. With sulfanilamide, a parenteral injection of 1 percent of the drug in physiologic sodium chloride solution overcomes this problem. Prontosil may also be used. Fluid intake must be rigidly kept to a minimum (800 cc. to an infant, and 1,400 cc. to a child of ten).—B. W. CAREY, M.D., in *N. Y. S. J. M.*, April 1, 1939.

THE DOCTOR'S STUDY

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., is accompanied by a check for the published price of the book.

Ignorance is the curse of God. Knowledge the wing wherewith we fly to heaven.—SHAKESPEARE.

Synopsis of Medicine

Tidy

A SYNOPSIS OF MEDICINE. *By* HENRY LETHEBY TIDY, M.A., M.D., B.Ch., (Oxon.), F.R.C.P. (Lond.), *Extra Physician to H. M. the King; Consulting Physician to St. Thomas' Hospital. Seventh Edition, Revised and enlarged. Baltimore: William Wood and Company; Medical Division, The Williams and Wilkins Company.* 1939. *Price,* $6.00.

FOR the busy physician, the harassed student, and the medical teacher, this volume will offer immediate assistance. Each medical disease is broken down into subdivisions, including definition, etiology, modes of infection, bacteriology, pathogenesis, immunity, symptoms, complications, sequelae, diagnosis, prognosis, prophylaxis, and treatment; but instead of the usual pages of closely packed text, each of these headings is followed by a line or two, so that the salient facts concerning a disease are apparent at once.

If all medical writers could pack facts into such a small volume, the amount of medical literature that we are forced to dig through to find what we wish to know would be much reduced. For example, the discussion on carcinoma of the colon: "Morbid anatomy: columnar-cell carcinoma; in proximal colon, often cauliflower type, fungating early; in distal colon, annular growths causing obstruction; metastases not common until late stages, except from rectum. Site: pelvi-rectal flexure and rectum, 55 percent; splenic flexure, 15 percent; transverse colon, 8 percent; hepatic flexure, 10 percent; cecum 12 percent. Modes of production of symptoms: (1) effect of foreign body in wall causes increased peristalsis, resulting in *diarrhea;* (2) effect of fungating mass—*blood* (at first, may be found by chemical tests only), mucus, and septic matter from surface of ulcer; and (3) effect of constriction, resulting in *constipation, colicky pains,* and secretion from retained feces." (Thus, we remember symptoms without blindly memorizing them).

The volume as a whole reflects modern thought. In the course of revision, gastric carcinoma apparently has been overlooked, as the symptoms given are still those which are entirely useless in making a *helpful* diagnosis. Pain, nausea and vomiting, cachexia, and hemorrhage, are *late* symptoms, and emphasis should instead be placed upon indigestion. Mucosal defects observed in serial roentgen-ray studies and fluoroscopy are not mentioned, although competent radiologists can thus detect a carcinoma 1 cm. in size.

Those clinicians who have been puzzled by mild and atypical cases of smallpox will read with interest the section on alastrim or variola minor, in which disease the usual prodromal symptoms of smallpox are followed by lesions somewhat resembling those of variola, except that the pocks are unilocular, rarely umbilicated, and are superficial.

Regional ileitis is described well (for the first time in this text), although many surgeons now question the advisability of intestinal resection as a first line of treatment, and believe that medical treatment and transfusions often permit a cure. Appendectomy is usually carried out because of the difficulty in differential diagnosis.

Dictionary of Treatment

Allison and Calvert

WHITLA'S DICTIONARY OF TREATMENT. Including Medical and Surgical Therapeutics. *Eighth Edition by* R. S. ALLISON, M.D., M.R.C.P. (*Lond.*), *Physician with Charge of Out-patients, Royal Victoria Hospital, and Consulting Physician and Neurologist to the Benn (Ulster) Eye, Ear, and Throat Hospital, Belfast; and* C. A. CALVERT, M.B., B.Ch., F.R.C.S.I., *Assistant Surgeon, Royal Victoria Hospital, and Ulster Hospital for Women and Children Belfast. Baltimore: William Wood and Company, Medical Division, The Williams and Wilkins Company.* 1939. *Price,* $9.00.

WITHIN the 1,245 pages of this text are found methods of treatment for all known medical and surgical diseases. The emphasis throughout is on those methods that may be used in general practice, although short descriptions are given of the correct procedure to be used by the specialist. Both major and minor disorders are considered, so that it is an exceedingly handy work to have for reference.

A number of authorities in the special fields have contributed and criticized the various articles, so that the general standard of the work is high. The description of the ideal treatment for open wounds of the abdominal wall (excision of one-fourth inch of the wound margins, after preliminary packing with antiseptic gauze and careful cleansing of the abdominal wall; condemnation of probing, as productive of little knowledge and possible introduction of infection) is much more modern and safe than that usually found in venerable texts.

The authors suggest that a large plug of rectus muscle be packed into a rupture of the liver, whether suture can also be carried out or not. A small rectal injection of glycerine is suggested, instead of an enema, for safe relief during the period of observation of a patient with an "acute" abdomen.

The discussion on angina pectoris is remarkably complete, including drug, psychotherapeutic, and physical therapeutic (diathermy) methods. Under operative treatment, no mention is given of Beck's work on pectoral muscle transplantation, or O'Shaugnessy's operation (cardio-omentopexy).

The treatment of the asthmatic attack includes

little besides the use of adrenalin, ephedrine, and inhalation of powdered antispasmodics. Ether in oil, the barbiturates, oxygen, dextrose solution, atropine, and aminophyllin are not mentioned.

The use of nitroglycerin in the treatment of biliary colic is not brought out. Butsch and Walter's work proves that morphine results in an increase of common-duct pressure.

These minor shortcomings may be readily corrected in the next edition. As a whole, the volume is a mine of readily available, sound knowledge for the general practitioner.

Physiology of Anesthesia

Beecher

THE PHYSIOLOGY OF ANESTHESIA. *By* HENRY K. BEECHER, A.B., A.M., M.D., *Instructor in Anesthesia, Harvard Medical School; Anesthetist in Chief, Massachusetts General Hospital. London, New York, Toronto: Oxford University Press.* 1938. *Price,* $3.75.

THIS monograph describes the physiologic processes connected with local and general anesthesia. The practice of anesthesia is not considered, although the material presented should be known before anesthetics are administered.

The signs of anesthesia and narcosis are described in detail, and the theories of narcosis are fully elaborated. The action of local anesthetics on nerves are discussed.

The circulatory and respiratory apparatus and the effects upon them of various anesthetic agents are presented in one very interesting section. Beecher has included much material that is little known under the heading of "Organic Effects of Anesthetic Agents." The effects on the blood, liver, gastro-intestinal tract, pancreas, spleen, kidneys, suprarenal glands, and uterus are discussed.

Marihuana

Walton

MARIHUANA, AMERICA'S NEW DRUG PROBLEM. *By* ROBERT P. WALTON, *Professor of Pharmacology, School of Medicine, University of Mississippi. With a Foreword by* E. M. K. GEILING, *Professor of Pharmacology, University of Chicago; and a Chapter by* FRANK R. GOMILA, *Commissioner of Public Safety, New Orleans; and* M. C. GOMILA LAMBOU, *Assistant City Chemist. Philadelphia: J. B. Lippincott Company.* 1939. *Price,* $3.00.

THIS dramatic book should be read by every physician, because of its scientific interest, and the fact that he may meet addicts and that his own sons or daughters may become enslaved by "reefer" cigarettes, which are being peddled to school children. The clinical stories of addicts are given in some detail.

It may surprise many physicians to learn that the marihuana (formerly known as hashish) vice is spreading throughout the United States. While reading the book, I was informed that several high school boys had committed flagrant crimes while under the influence of the drug.

R. L. G.

Anemia in Practice

Murphy

ANEMIA IN PRACTICE. *By* WILLIAM P. MURPHY, M.D., A.B., *Associate in Medicine, Harvard Medical School; Senior Associate in Medicine, Peter Brent Brigham Hospital, Boston; Consultant Hematologist, Melrose Hospital, Melrose, Mass.* 344 *Pages; 41 Illustrations. Philadelphia and London: W. B. Saunders Company.* 1939. *Price,* $5.00.

SCATTERED through the literature, in the past ten years, have been many articles on the diagnosis and management of the various anemias. Heavy doses, light doses, ferrous or ferric compounds, vitamins, thyroid extract, and liver extracts are all recommended in enthusiastic terms.

Dr. Murphy has collected all the valuable and fundamental facts that the past decade's renewed interest in hematologic research has established. In brief, striking sentences, he sketches the important aspects of hypochromic, normocytic, and pernicious (macrocytic) anemias.

The discussion is practical, as it emphasizes the various preparations that are most effective for each type of anemia. *"No anemia is too slight to need treatment, because sometimes the most pleasing results can be obtained from the proper control of even the most innocuous-appearing anemia."*

He does not feel that the huge doses, recently advocated in the treatment of iron-deficiency (hypochromic) anemias, are essential. He feels that Blaud's pill, ferric-ammonium citrate, ferrous sulphate, and perhaps reduced iron, are all effective when given in doses of 15 grains (1 Gm.) after each meal.

As would be expected from this author, the chapters on pernicious anemia are remarkably complete and helpful. Although Dr. Murphy has been especially pleased with one particular parenteral preparation of liver extract, seven firms now market such material, and results have been equally good in other anemia clinics, notably that at the University of Minnesota. Several authorities feel that the highly concentrated extract is so concentrated that valuable factors are lost, including Vitamin B_1, and recommend the use of a 5 or 10 unit extract.

There is not a practitioner, general, surgical, or medical, who does not encounter patients with anemia. To all such physicians, this book will be invaluable.

Doctor, Here's Your Hat!

Jerger

DOCTOR, HERE'S YOUR HAT! The Autobiography of a Family Doctor. *By* JOSEPH A. JERGER, M.D. *New York: Prentice-Hall, Inc.* 1939. *Price,* $2.75.

DOCTOR, here's a good book! Good from the standpoint of interesting reading; good for post-graduate study.

Dr. Jerger assisted a grand old country physician for a period of years and absorbed much of his wisdom. After building up a practice in Waterloo, Iowa, he fulfilled his life's ambition by moving to Chicago and practicing there.

His mistakes in the diagnosis and treatment of patients, "Old Doc's" methods of handling difficult cases, emergency operations, and numerous anecdotes make the book enjoyable from beginning to end. The physician will find himself unable to stop it, once begun, and will refer to it again and again for its medical knowledge.

Ophthalmic Surgery

Spaeth

THE PRINCIPLES AND PRACTICE OF OPHTHALMIC SURGERY. *By* EDMUND B. SPAETH, M.D., F.A.C.S., *Associate Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania; Ophthalmologist to the Orthopedic Hospital and Infirmary for Nervous Diseases, Philadelphia; Assistant Ophthalmologist, Rush Hospital, etc.* 1,031 *Figures, 4 Colored Plates. Philadelphia: Lea & Febiger.* 1939. *Price,* $10.00.

THE advances of surgery of the eye may be estimated by perusing this book. No longer is the ophthalmic surgeon handicapped by inadequate anesthesia, by corneal damage following cocaine anesthesia, or by complications due to general anesthesia. Spaeth indicates a flexible program, including the use of topical, local injection, nerve block, intravenous, rectal, and inhalation anesthesia, where each is indicated. This section is unusually good.

In successive chapters are considered the surgery of orbit and its contents, the lacrimal apparatus, enucleation, symblepharon, ocular muscles, ophthalmologic plastic surgery, lids, eyeball, conjunctiva, sclera, cornea, iris and anterior chamber, cataract, glaucoma, retinal separation, and traumatisms of the globe.

The section on plastic surgery indicates a thorough knowledge of such procedures. The eye surgeon who studies this material well will find that he is able to carry out transplantation of muscle

and fascia rather readily. As Spaeth says, fat transplantation is usually not successful, as the fat is absorbed.

Hundreds of technics are described and illustrated. Throughout, the most careful attention has been given to details, so necessary in a work of this type.

The discussion on the treatment of pulsating exophthalmos merges imperceptibly into the treatment of exophthalmos, and is not well classified.

A better guide for the surgeon and student ophthalmologist cannot be imagined.

Syphilis

Moulton

SYPHILIS. *Edited by* FOREST RAY MOULTON; THOMAS PARRAN, *Honorary Chairman, Publication Committee of American Association for the Advancement of Science. Published for the Association by The Science Press.* 1938. *Price,* $2.50.

SEVERAL syphilologists have contributed to this volume articles on the entire subject of syphilis, including the various aspects of the disease, related diseases in man and animals, the cause of the disease, its diagnosis and treatment, and its importance from the public health viewpoint.

The physician will find much that is of interest and value, from Pusey's championship of the American origin of syphilis (based on the fact that no syphilitic bones have ever been found which date back before Columbus), the discussions on the identity of yaws and syphilis, the diagnostic mistakes resulting from syphilis mimicking other diseases, and the effective methods of treatment and drugs, to reactions following arsphenamine treatment.

"The Significance of Bejel" stimulates the mind of the reader. Bejel, the syphilis of the filth-ridden Orient, is transmitted by children to parents, does not cause severe late lesions, and is found only where there is not the slightest vestige of cleanliness. *The spirochete is thus not, by nature, a venereal parasite, but becomes so only when personal cleanliness prevents its taking foothold elsewhere.*

Pulmonary Tuberculosis

Segal

PULMONARY TUBERCULOSIS. A Synopsis. *By* JACOB SEGAL, M.D., *Physician in Charge of Fordham Hospital Tuberculosis Clinic, New York; Associate Visiting Physician, Riverside and Bronx Hospitals, New York. Foreword by the Late* POL N. CORYLLOS, M.D., F.A.C.S., *Professor of Clinical Surgery, Cornell Medical College, New York, London, and Toronto: Oxford University Press.* 1939. *Price,* $2.75.

WITHIN the span of 119 pages, Segal has presented every fact that we need to know concerning the diagnosis and treatment of tuberculosis. Simplification of diagnosis and treatment are emphasized, and much of the useless material carried over from pre-roentgen-ray days, discarded.

A series of strikingly clear roentgenograms, printed on glossy paper, illustrate the various forms of caseous, pneumonic, and fibrous tuberculosis.

The practitioner will enjoy having this inexpensive book at hand. In a few hours of leisurely reading at night, he can learn modern concepts.

Clinical Diagnosis of Swellings

Corrigan

THE CLINICAL DIAGNOSIS OF SWELLINGS. *By* C. E. CORRIGAN, B.A., M.D., F.R.C.S. (*Eng.*), *Lecturer in Surgery, University of Manitoba; Assistant Surgeon and Director of the Out-Patient Department, St. Boniface Hospital. Baltimore: The Williams and Wilkins Company.* 1939. *Price,* $4.00.

THE heart of the older type of master clinician would be delighted by this book. In simple, lucid form, Corrigan presents a clinical method of making a diagnosis.

Three questions should be answered by the physician: First, is the swelling single or multiple? Second, what is its anatomic depth? And third, what are its physical characteristics? If these questions are answered, a diagnosis can be made in nearly every case, or the working diagnosis can be substantiated by laboratory methods.

To illustrate the value of his method, read the introduction to the chapter on swellings of the neck: "In perhaps 98 of every 100 patients who present masses in the neck, the lesion is located in the commonly affected glandular organs; namely, the lymphatic, thyroid, and salivary bodies. Our first efforts will be to prospect these tissues as the possible locus of the swelling. Should the mass arise elsewhere, we will realize that the swelling is of unusual rarity, and that we will have to review the entire gamut of possible sources . . . such a course is simplified by adopting the anatomic plan of attack, thus proceeding from one group of clinical possibilities to another."

Swellings are presented from the standpoint of location (neck, breast, abdomen, hernia, inguinoscrotal region, joints), and of type (inflammatory, tumors, cysts, ulcers, lymphatic glands, and pulsating swellings). Line drawings indicate important diagnostic points.

The general practitioner will find this book of immense practical value in his daily work.

Alcohol in Moderation and Excess

Waddell and Haag

ALCOHOL IN MODERATION AND EXCESS: A Study of the Effects of the Use of Alcohol on the Human System. *By* J. A. WADDELL, M.D., *Professor of Pharmacology, Materia Medica, and Toxicology, Medical Department, University of Virginia, and* H. B. HAAG, M.D., *Professor of Pharmacology, Medical College of Virginia. Richmond, Virginia: The William Byrd Press, Inc.* 1939. *Price,* $1.00.

FOR those patients who wish to know the truth about the use of alcohol, this book may be recommended. It is neither militantly "dry" nor ingratiatingly "wet."

The authors have canvassed the literature and collected all pertinent data. The result is so impartial that the professional "dry" organizations succeeded in having it barred from the official documents of the state of Virginia. (It had been ordered by the Virginia State Legislature as a basis for teaching in the public schools).

In presenting the subject of the reproductive organs and heredity, they make a clear distinction between alcohol as a cause and as an effect of degeneracy. Moral (sexual) sense is much lessened by the use of alcohol, and they make this point clear.

The essence of the entire paper is that alcohol, in small amounts, is not harmful; but if taken in any considerable quantity, or indulged in regularly, injuries to various organs result.

Enough anatomy and physiology is given so that the lay person may readily understand the physiologic and pathologic processes. It is a scholarly, effective document. The mechanical makeup is good.

Surgical Technic of Otorhinolaryngology

Portmann

A TREATISE ON THE SURGICAL TECHNIC OF OTORHINOLARYNGOLOGY. *By* GEORGES PORTMANN, *Professor of Otorhinolaryngology at the Medical School of the University of Bordeaux, in Collaboration with Members of the Department. Translation by* PIERRE VIOLE, M.D., *Associate Professor of Surgery, Department of Otorhinolaryngology, University of Southern California School of Medicine. 474 Illustrations; 2 Colored Plates. Baltimore: William Wood and Company, Medical Division, The Williams and Wilkins Company.* 1939. *Price,* $12.50.

DR. Portmann believes that teaching should strike the eyes more than the ears. In consonance with this belief, his text on surgical technic contains hundreds of clear, operative sketches. Such an atlas is of immense value to the practitioner who does not daily perform a wide variety

of operations and to the young specialist and student, as they enable the field and technic to be visualized.

No confusion is engendered by the exhibition of a number of methods, as Portmann presents only the one procedure which he and his associates have found most effective.

Every detail is given, so that no preparations need be omitted. Photographs are furnished of the operative set-up and lists of instruments for each operation. The technic of inducing local anesthesia, indications for the operation, preparation of the patient and proper positioning, step-by-step operative technic, operative complications, postoperative care and dressings, and postoperative complications, are described and illustrated for each procedure.

The sketches include operative technic and clinical conditions. Those on peritonsillar abscess, illustrating the various locations of the abscess, are notable. Intranasal operations are depicted in lateral section and also as they appear through the nasal speculum, so that one may coordinate what one sees while operating with the structures that are being encountered.

The Brachial Plexus

Harris

THE MORPHOLOGY OF THE BRACHIAL PLEXUS, with a Note on the Pectoral Muscle and Its Tendon Twist. *By* WILFRED HARRIS, M.D., F.R.C.P., *Consulting Physician, St. Mary's Hospital; Physician, Maida Vale Hospital for Nervous Diseases. London: Humphrey Milford, Oxford University Press.* 1939. *Price,* $8.00.

THIS monograph is the fruit of exhaustive studies, over a period of years, of the brachial plexuses of a wide variety of animals, from birds and reptiles up to man, with clear line drawings in two colors (a few in three colors) showing the different types encountered. It should be of interest, as a reference book, to teachers and a few enthusiastic students of anatomy, and to neurologists, especially neural surgeons, but to few other clinicians, though it is a valuable addition to our permanent store of exact knowledge.

Surgical Anatomy

Callander

SURGICAL ANATOMY. *By* C. LATIMER CALLANDER, A.B., M.D., F.A.C.S., *Associate Professor of Surgery and Topographic Anatomy, University of California Medical School; Member Founder's Group of American Board of Surgery; Associate Visiting Surgeon to the San Francisco Hospital. With a Foreword by* DEAN LEWIS, M.D., Sc.D., F.A.C.S. *Second Edition, Entirely Reset.* 858 *Pages;* 819 *Illustrations. Philadelphia and London: W. B. Saunders & Co.* 1939. *Price,* $10.00.

THIS book is memorable for two things: its clear prose, written by a practicing surgeon, and its profusion of sketches.

The second edition contains even more illustrations than the popular first edition. An entire anatomic or surgical concept can often be obtained by a moment's glance.

Revision has deleted a few obsolete illustrations and included new work on anatomy and surgery, notably that of Coller and his associates.

It is a comforting feeling to have this book at hand for reference on surgical and anatomic problems. The diagnostician is aided by a more exact and *practical* anatomic knowledge. The surgeon readily finds points on landmarks, dangerous areas, and technic.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

THE NEWER KNOWLEDGE OF NUTRITION. *By* E. V. MCCOLLUM, Ph.D., Sc.D., LL.D., ELSA ORENT-KELLES, Sc.D. *and* HARRY G. DAY, Sc.D. *5th Edition, Entirely Rewritten. New York: The Macmillan Company.* 1939. *Price,* $4.50.

CHRONIC ARTHRITIS. *By* ROBERT T. MONROE, A.B., M.D. *Edited by* HENRY A. CHRISTIAN, A.M., M.D., LL.D., Sc.D. (HON.), F.R.C.P. (HON.). *Reprinted from Oxford Loose-Leaf Medicine. New York: Oxford University Press.* 1939. *Price,* $2.00.

LIFE AND LETTERS OF DR. WILLIAM BEAUMONT. *By* JESSE S. MYER, A.B., M.D. *With an Introduction by* SIR WILLIAM OSLER, Bt., M.D., F.R.S. *A New Print. St. Louis: The C. V. Mosby Company.* 1939. *Price,* $5.00.

NUTRITION AND DIET THERAPY. A Textbook of Dietetics. *By* FAIRFAX T. PROUDFIT. *7th Edition, Completely Revised and Reset. New York: The Macmillan Company.* 1939. *Price,* $3.00.

AMERICA LOOK AT SPAIN. *By* MERWIN K. HART. *New York: P. J. Kenedy & Sons.* 1939. *Price,* $2.50.

THE NEW INTERNATIONAL CLINICS. *Edited by* GEORGE MORRIS PIERSOL, M.D. *Volume* II, *Series 2, June,* 1939. *Philadelphia: J. B. Lippincott Company.* 1939. *Price,* $3.00, *current year, not sold separately;* $5.00, *back years.*

AMERICAN POCKET MEDICAL DICTIONARY. *Edited by* W. A. NEWMAN DORLAND, A.M., M.D. *16th Edition, Thoroughly Revised. Philadelphia: W. B. Saunders Company.* 1938. *Price,* $2.50.

THE PSYCHOLOGY OF MAKING LIFE INTERESTING. *By* WENDELL WHITE, Ph.D. *New York: The Macmillan Company.* 1939. *Price,* $2.50.

ENDOCRINOLOGY IN MODERN PRACTICE. *By* WILLIAM WOLF, M.D., M.S., Ph.D. *2nd Edition, Completely Revised. Philadelphia: W. B. Saunders Company.* 1939. *Price,* $10.00.

HEART PATIENTS. Their Study and Care. *By* S. CALVIN SMITH, M.D., Sc.D. *Philadelphia: Lea & Febiger.* 1939. *Price,* $2.00.

MENSTRUAL DISORDERS. Pathology, Diagnosis and Treatment. *By* C. FREDERIC FLUHMANN, B.A., M.D., C.M. *Philadelphia: W. B. Saunders Company.* 1939. *Price,* $5.00.

DISEASES OF THE NOSE AND THROAT. *By* CHARLES J. IMPERATORI, M.D., F.A.C.S. *and* HERMAN J. BURMAN, M.D., F.A.C.S. *2nd Edition Revised. Philadelphia: J. B. Lippincott Company.* 1939. *Price,* $7.00.

GUIDING HUMAN MISFITS. A Practical Application of Individual Psychology. *By* ALEXANDRA ADLER, M.D. *New York: The Macmillan Company.* 1939. *Price,* $1.75.

BABIES ARE HUMAN BEINGS. An Interpretation of Growth. *By* C. ANDERSON ALDRICH, M.D. *and* MARY M. ALDRICH. *New York: The Macmillan Company.* 1939. *Price,* $1.75.

PYE'S SURGICAL HANDICRAFT. A Manual of Surgical Manipulations, Minor Surgery, and Other Matters Connected with the Work of House Surgeons and of Surgical Dressers. *Edited by* HAMILTON BAILEY, F.R.C.S. ENG. *11th Edition. Baltimore: The Williams & Wilkins Company.* 1939. *Price,* $6.00.

A TEXTBOOK OF SURGERY. *By American Authors. Edited by* FREDERICK CHRISTOPHER, B.S., M.D., F.A.C.S. *2nd Edition Revised. Philadelphia: W. B. Saunders Company.* 1939. *Price,* $10.00.

TEXTBOOK OF MEDICINE. *By Various Authors. Edited by* J. J. CONYBEARE, M.C., D.M. OXON., F.R.C.P. *4th Edition. Baltimore: The Williams & Wilkins Company.* 1939. *Price,* $6.75.

SHORT STATURE AND HEIGHT INCREASE. *By* C. J. GERLING. *Foreword by* EDWARD PODOLSKY, M.D. *New York: Harvest House.* 1939. *Price,* $3.00.

Medical News

Dr. Dorland Honored

Our distinguished associate editor, Lt. Col. W. A. Newman Dorland, A.M., M.D., F.A.C.S., medical lexicographer, teacher, author, obstetrician, and descendant of the earliest white settlers in the United States, has recently received the conspicuous honor of election to be Governor-General of the Founders and Patriots of America, in which illustrious organization he has long been active. Among his predecessors in this office are such outstanding citizens as Admiral George Dewey and Maj. Gen. Frederick Dent Grant. A biographic sketch of Dr. Dorland appeared in this Journal in January, 1933.

Diagnosing Tuberculosis

The National Tuberculosis Association has prepared a highly instructive and helpful brochure, setting forth the "Diagnostic Standards" in tuberculosis of the lungs and related lymph nodes, with details of the methods employed, and will send a copy to any physician who requests it, addressing the Association at 50 West 50th St., New York, N. Y., and mentioning this Journal.

Blood-Study Institute

The University of Wisconsin Medical School is to conduct an institute for the consideration of the blood and blood-forming organs, September 4 to 6, 1939. The program is to include papers and round-table discussions by European and American workers in the field of hematology.

Physicians and others who are interested are cordially invited. A detailed program may be obtained by addressing Dr. Ovid O. Meyer, Chairman of Program Committee, University of Wisconsin Medical School, Madison, Wisconsin.

Passing of Dr. R. C. Cabot

Richard Clarke Cabot, A.B., M.D., LL.D., formerly professor of clinical medicine and of social ethics, at Harvard University; eminent clinician; and author of several standard textbooks (notably his "Physical Diagnosis," of which eleven editions have been published), passed to his rest May 8, 1939, after a long illness, at his home in Cambridge, Mass., at the age of 71 years.

Ophthalmoscopy

Every general clinician should have an ophthalmoscope and know how to use it and interpret what he sees, as many diseases can be first diagnosed by examining the fundus of the eye.

The American Optical Company has prepared a handsome brochure, describing the ophthalmoscope and its uses and illustrating, in full color, a few of the commoner conditions seen in the fundus. Any physician can obtain a copy by writing to the Company, at New York, Chicago, or San Francisco, and mentioning this Journal.

The products we advertise are worthy of your attention. Look them over.

Additions for Duke Hospital

Duke hospital, located on the Duke University campus at Durham, N. C., has announced plans for a new 200-room addition to the present hospital building, providing from 100 to 120 new beds and raising the total capacity of the hospital to more than 550 beds. The new addition will provide for the expansion of the hospital's clinic services, which, during the past several years, have been taxed to capacity, with an almost constant waiting list of patients at the Duke Institution from every county in the state, as well as from outside the state.

SEND FOR THIS LITERATURE

To Assist You in Obtaining New and Worthwhile Information on Pharmaceuticals, Biologicals, Equipment, Foods, Physicians' Supplies, Etc., "C.M.&S." will forward your requests for any literature listed in this Department.

Make Use of this Department
Both Literature and Service Are Free

1 The Pneumonic Lung. Its Physical Signs and Pathology. Denver Chemical Mfg. Co.

4 Taurocol. The Paul Plessner Co.

6 Dr. Weirick's Sanitarium. Dr. G. A. Weirick.

9 Elixir Bromaurate in the Treatment of Whooping Cough and other Persistent Coughs. Report of Cases. (Booklet.) Gold Pharmacal Co.

11 Chondroitin; for Treatment of Idiopathic Headache. The Wilson Labs.

15 Cough—Its Symptomatic Treatment. Martin H. Smith Co.

17 Feeding Diabetic Patients. Knox Gelatine Labs.

19 Menstrual Regulation by Symptomatic Treatment. Martin H. Smith Co.

20 Hyperol. A Utero-Ovarian Tonic and Corrective. Purdue Frederick Co.

21 Gray's Glycerine Tonic Comp. Purdue Frederick Co.

22 Feeding Sick Patients. Knox Gelatine Labs.

25 Clinical Guide for Female Sex Hormone Therapy. Schering Corp.

27 Reducing Diets and Recipes. Knox Gelatine Laboratories.

31 The Germicidal Efficiency of the Vaporized Cresols of Coal Tar. Vapo-Cresolene Co.

33 Foot Weakness and Correction for the Physician. The Scholl Mfg. Co., Inc.

38 Protecting the Expectant Mother. Corn Products Sales Co.

41 Oreton—Male Sex Hormone. Schering Corp.

43 Karo Syrup for Infant Feeding. Corn Products Sales Co.

44 Appliances for the Mechanical Retention of Hernia. Brooks Appliance Co.

46 Vitafer. A Reconstructive Tonic containing Antianemic Factors with Vitamin B. The National Drug Co.

50 Gestasol. The Follicular and Luteinizing Fractions obtained from Human Placentae. The National Drug Co.

54 Use of Zinc Borate in Otolaryngology. Hille Laboratories.

78 Argyrol in Urology and Gynecology. A. C. Barnes Company.

83 Iocapral. An Arterial Antispasmodic. Winthrop Chemical Co., Inc.

89 Free Iodine as a Therapeutic Agent. Burnham Soluble Iodine Co.

91 Adrenal Cortex; for the Treatment of Addison's Disease and Asthenia. The Wilson Labs.

95 Low Cholesterol, Low Fat, Low Caloric Diet List for Distribution to Patients. Burnham Soluble Iodine Co.

99 A Survey in Two Fields of Medicine. A. C. Barnes Co.

100 Neo-Plasmoid. The Modern Solution for the Injection Treatment of Hernia. Farnsworth Labs.

105 Ovoferrin. Iron in its Most Efficient Subdivision. A. C. Barnes Co.

111 Argyrol in Ophthalmology. A. C. Barnes Company.

116 Alparene—An Effective Sclerosing Solution for the Injection Treatment of Hernia. Dequin Physicians' Products Co.

123 Resumé of Venereal Therapy. Mallinckrodt Chemical Works.

124 Soricin in the Treatment of Intestinal Toxemia. The Wm. S. Merrell Company.

130 Allantoin Ointment 2% in Slow and Non-healing Wounds and in Burns. The National Drug Co.

135 Argyrol in Otorhinolaryngology. A. C. Barnes Co.

137 Barium Sulfate. Resumé of Use in Alimentary Roentgenology. Mallinckrodt Chemical Works.

139 Standardization of Estrogenic Hormone. Reed & Carnrick.

140 Paramon—Analgesic. Seydel Chemical Co.

142 Anabolin. A Detoxicative Hormone from the Liver. The Harrower Laboratory, Inc.

143 The Physicians' Conquest of Syphilis. The Tilden Co.

146 Moru-Quin for Injection Treatment of Varicose Veins. The National Drug Co.

148 Ampoule Products for Subcutaneous, Intramuscular, and Intravenous Medication. Associated Physicians Labs.

151 Cofron Liver Concentrate. Abbott Labs.

154 Cyclopropane for Anesthesia. Mallinckrodt Chemical Works.

155 Alkali or Calcium, Which Shall It Be? Wm. R. Warner & Co., Inc.

157 Galatest—A New Micro-Reagent for Instantaneous Detection of Urine Sugar. The Denver Chem. Mfg. Co.

159 Zemacide, an Efficient and Dependable Local Application for Eczema. The Tilden Co.

161 Pregnacol, an Intradermal Test for the Determination of Pregnancy from the Second Week to the Fifth Month. Ernst Bischoff Co.

163 Torvic Electro-Volatilization in the Treatment of Laryngo-Nasal Conditions. Torvic Laboratories, Inc.

164 Acid Mineral Therapy. Acid Mineral Distributing Co.

165 Tebigen—A New Homologous Antigen for the Diagnosis of Tuberculosis. Ernst Bischoff Co.

166 The Dowling Treatment. Thirty Years of Observation and Results. A. C. Barnes Co.

167 Glucophylline. A New Diuretic and Myocardial Stimulant. Abbott Labs.

168 Low Back Pain, Sarapin, and Neuralgias. High Chemical Co.

170 Good News for Gastric Ulcer Dieters. Knox Gelatine Labs.

171 The Problem of Cardiovascular Sedation. Grant Chemical Co., Inc.

172 Summer Constipation. Wm. R. Warner & Co., Inc.

USE THIS COUPON!

7-39

Enter below the numbers of the literature you desire (on both sides of this page); check your profession in the proper square, inclosing your card, prescription blank, or letterhead as verification; tear off and mail to CLINICAL MEDICINE AND SURGERY, Medical & Dental Arts Bldg., Waukegan, Ill.

We will do the rest!

NOS.....

.....

NAME.....

ADDRESS.....

☐ **Physician (M.D.)** ☐ **Intern** ☐ **Medical Student** ☐ **Nurse**
☐ **Registered Pharmacist** ☐ **Dentist** ☐ **Osteopath**